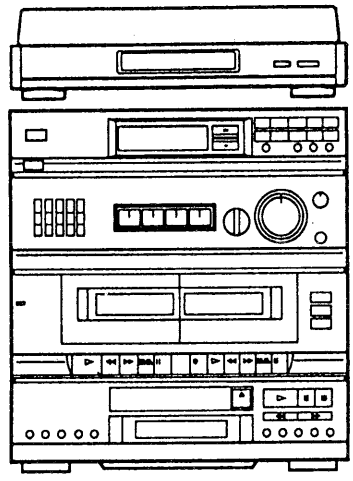
LBT-D109CD

SERVICE MANUAL



Canadian Model
AEP Model
UK Model

- LBT-D109CD is composed of following models. As for the service manual it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR LBT-D109CD

STEREO DECK RECEIVER	HCD-D109
TURNTABLE (AEP/German/UK)	PS-LX52P
SPEAKER SYSTEMS (Canadian)	SS-D110

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

ACCESSORY & PACKING MATERIAL

	Parts No.	Description
	A-4674-087-A	TURNTABLE MAT ASSY (PS-LX52P)(AEP/G/UK)
	1-466-926-11	REMOTE, COMMANDER (RM-S109)
	1-501-374-11	ANTENNA, LOOP
	1-501-536-11	ANTENNA (AEP)
	2-181-754-01	COVER, BATTERY (RM-S109)
*	3-376-136-01	CUSHION (HALF)(HCD-D109)
	3-756-342-12	MANUAL, INSTRUCTION (ENGLISH)(UK)
	3-756-342-21	MANUAL, INSTRUCTION (ENGLISH)(CND)
	3-756-342-31	MANUAL, INSTRUCTION (FRENCH)(CND)
	3-756-342-41	MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH/PORTUGUESE)(AEP)
	3-756-342-51	MANUAL, INSTRUCTION (GERMAN/DUTCH/SWEDISH/ITALIAN)(AEP/G)
*	4-936-544-01	CUSHION (SS-D110)(CND)
*	4-941-548-01	LABEL, CLASS 1 (AEP/G/UK)
*	4-947-532-01	SNOW BOX (L)(PS-LX52P)(AEP/G/UK)
*	4-947-533-01	SNOW BOX (R)(PS-LX52P)(AEP/G/UK)
*	4-956-524-01	INDIVIDUAL CARTON (AEP/G)
*	4-956-941-01	CUSHION (HCD-D109)
*	4-957-618-02	INDIVIDUAL CARTON (UK)
*	4-957-619-01	INDIVIDUAL CARTON (CND)

CND : Canadian
G : German

SPECIFICATIONS

Power requirements	120V AC, 60Hz (Canadian) 220−230V AC, 50/60 Hz (AEP/German) 240V AC, 50Hz (UK)
Power consumption	90W (AEP/German/UK) 85W (Canadian)
Weight	Approx. 8.6 kg (18 lb 15 oz)
Dimensions	Approx. 355 × 380 × 325 mm (14 × 15 × 12 7/8 inches) (w/h/d, including projections)

Supplied accessories

45-rpm adaptor (1)(AEP/German/UK)
Remote commander RM-S109 (1)
FM wire antenna (1)(AEP model)
AM loop antenna (1)
Batteries Sony SUM-3 (NS)(2)

Design and Specifications subject to change without notice.

COMPACT HiFi STEREO SYSTEM

SONY®

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Published by Audio Sector Quality Assurance Dept.

9-957-624-12

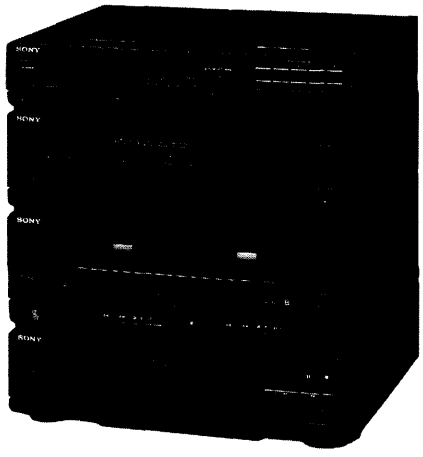
Sony Corporation
Audio Group

HCD-D109

SERVICE MANUAL

Ver 1.1 2001. 07
With SUPPLEMENT-1
(9-957-568-82)

US Model
Canadian Model



• HCD-D109 is the
STEREO DECK RECEIVER
in LBT-D109CD and LBT-D110CD.

SPECIFICATIONS

Tuner

System: FM stereo; FM/AM superheterodyne tuner

FM tuner section
- Tuning range: 87.5 to 108 MHz
- Antenna: 300 ohms balanced; 75 ohms unbalanced

Intermediate frequency: 10.7 MHz

AM tuner section
- Tuning range: 530 to 1,710 kHz
- Antenna: AM loop antenna; External antenna terminal

Intermediate frequency: 450 kHz

Amplifier

Input	Jack type	Sensitivity	Impedance
PHONO	Phono	3 mV	47 kilohms

Output	Jack type	Impedance
HEADPHONES	Stereo phone	Accepts headphones of 8 ohms or more

Frequency response: 15 Hz to 50 kHz $^{+0}_{-3}$dB

Cassette deck

Recording system: 4-track 2-channel stereo

Frequency response: DOLBY NR OFF
With Type II cassette (Sony UX-S)
40 Hz to 14 kHz (±3 dB)
With Type I cassette (Sony HF-S)
40 Hz to 13 kHz (±3 dB)

Wow and flutter: 0.1% (WRMS)

Compact disc player

Laser: Semiconductor laser (λ=780 nm)

Laser output: Max. 44.6 µW*
*This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

Model Name Using Similar Mechanism	HCD-D108G
Tape Transport Mechanism Type	TCM-180VW-H9
Model Name Using Similar Mechanism	HCD-D117
CD Mechanism Type	CDM14-5BD1
Base Unit Name	BU-5BD1

Frequency response: 2 Hz to 20 kHz ±0.5 dB
Signal-to-noise ratio: More than 93 dB
Dynamic range: More than 90 dB
Harmonic distortion: Less than 0.008% (1 kHz)
Channel separation: More than 90 dB (1 kHz)

General

Power requirements: 120 V AC, 60 Hz
Power consumption: 85 W
Mass: Approx. 8.6 kg (18 lb 15 oz)
Dimensions: Approx. 355 x 380 x 325 mm (14 x 15 x 12 7/8 inches) (w/h/d, including projections)

Accessories supplied

Remote commander RM-S109	(1)
Batteries Sony SUM-3 (NS)	(2)
FM wire antenna	(1)
AM loop antenna	(1)

Design and specifications are subject to change without notice.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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COMPACT HiFi STEREO SYSTEM

SONY®

9-957-568-13
2001G0200-1
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Sony Corporation
Home Audio Company
Shinagawa Tec Service Manual Production Group

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer :
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate lowvoltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable.
(See Fig. A)

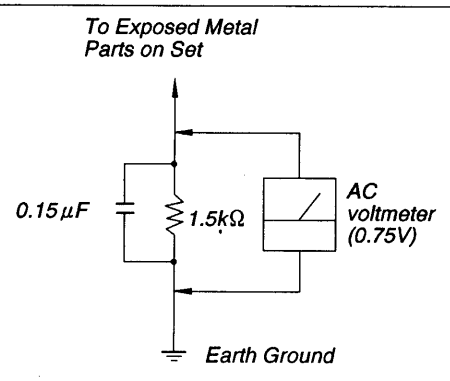

Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

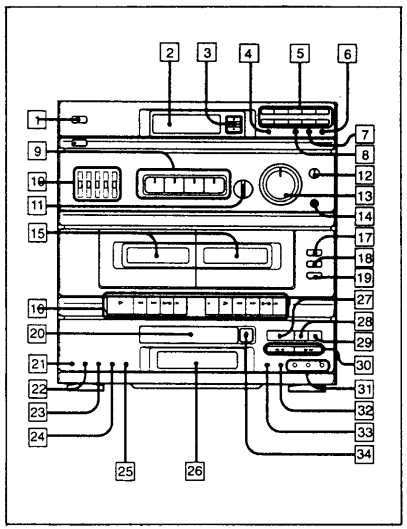
The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the ovjective lens.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

Location of Controls

Refer to the pages indicated in parentheses for details.



Compact Disc Deck Receiver HCD-D109

Tuner section

1 POWER switch (page 5)
2 Display window
3 DUAL MODE TUNING +/– buttons (pages 7, 8)
4 MEMORY button (page 8)
5 Numeric buttons (page 8)
6 SHIFT button (page 8)
7 BAND SELECT button (page 7)
8 ST/MUTE button (page 7)

Amplifier section

9 Function selector and indicators
10 5 BAND GRAPHIC EQUALIZER controls (page 6)
11 DBFB (dynamic bass feedback) control (page 6)
12 SURROUND control (page 6)
13 VOLUME control (page 6)
14 HEADPHONES jack (page 6)

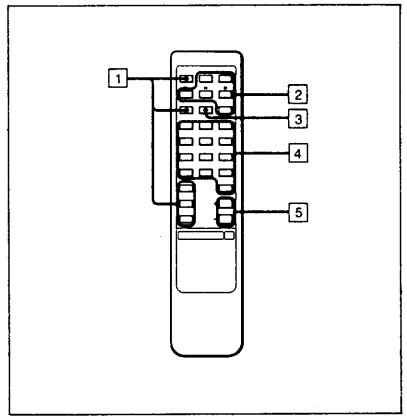
Cassette deck section

15 Cassette holders
16 Tape operating buttons
► (play) button, ■/⏏ (stop / eject) button, ►► (rightward fast winding) button, ◄◄ (leftward fast winding) button, II PAUSE button , ● REC button (only for deck B)
17 TAPE SELECT button (pages 9, 10, 12)
18 DUBBING SPEED (HIGH / NORMAL) button (page12)
19 DOLBY NR (noise reduction) switch (pages 9, 10)

Compact disc player section

20 Disc tray
21 TIME button (page 14)
22 REPEAT button (page 18)
23 FADE button (page 20)
24 CHECK (program check) button (page 17)
25 CLEAR (program clear) button (page 17)
26 Display window
27 ► (play) button (page 13)
28 II (pause) button (page 13)
29 ■ (stop) button (page 13)
30 I◄◄ ◄◄ / ►► ►►I (AMS*) buttons (page 14)
31 PLAY MODE buttons
PROGRAM button (page 16)
SHUFFLE button (page 15)
CONTINUE button (pages 15, 17, 20)
32 MUSIC SCAN button (page 18)
33 EDIT button (pages 19, 20, 21)
34 ⏏OPEN/CLOSE button (page 13)

* AMS is the abbreviation of Automatic Music Sensor.



Remote Commander RM-S109

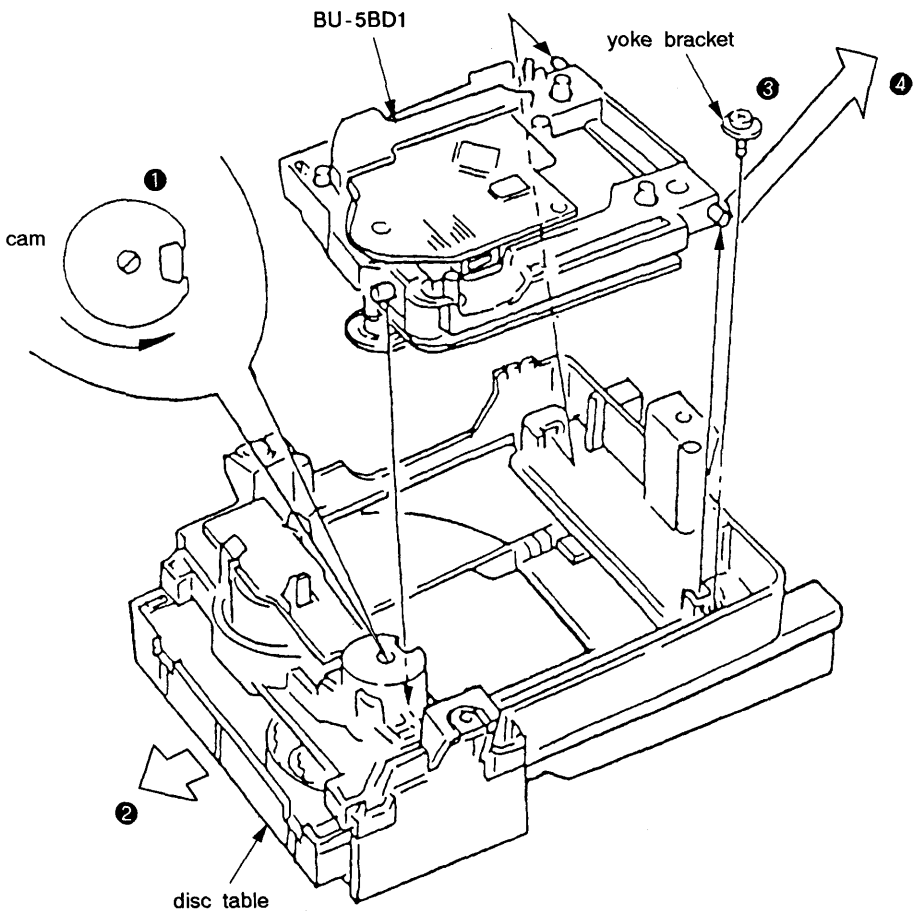
1 Function selectors
(The VIDEO button cannot be used for this model.)
2 CD operating buttons
(The DISC SKIP button cannot be used for this model.)
3 SHIFT button (page 8)
4 Tuner operating buttons and numeric buttons for CD player
5 VOLUME +/– buttons (page 6)

This section is extracted from instruction manual.

SECTION 2
DISASSEMBLY OF BASE UNIT

Note: Follow the disassembly procedure in the nomerical order given.

❶ Turn the cam to the direction of arrow (Counter clock wise) by minus screw driver.
❷ Take off the disc table.
❸ Remove the yoke bracket.
❹ Remove the MD (BU-5BD1) to the direction of arrow.



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured alcohol-moistened swab :
   - record／playback heads
   - erase head
   - capstan
   - pinch rollers
   - rubber belts
   - idlers
2. Demagnetize the record／playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	30 – 70g・cm (0.42 – 0.97oz・inch)
FWD Back tension	CQ-102C	1.5 – 5.5g・cm (0.020 – 0.076oz・inch)
FF／REW	CQ-201B	63g・cm or more (0.87oz・inch)

3-2. ELECTRICAL ADJUSTMENTS

0dB = 0.775V (AF)
0dB = 0.1 μ V (RF)

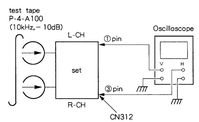
CASSETTE DECK SECTION

1. Demagnetize the record／playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.

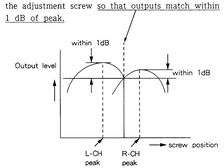
● Switches and controls should be set as follows unless otherwise specified.
TAPE SELECT switch : TYPE 1

Type	Signal	Used for
P-4-A100	10kHz, – 10dB	Azimath Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment
Note: Perform this adjustments for both decks.
Procedure:
1. Mode : FWD playback

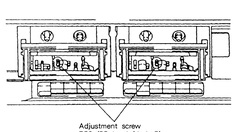


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.

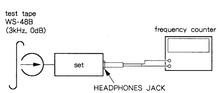


3. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location:



Tape Speed Adjustment
Procedure:
Mode : Playback

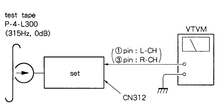


● High speed adjustment
1. Short pin CN311. Then at HIGH speed mode.
2. Adjust RV371 so that the frequency counter reads 6000 ± 20Hz. (Must be first Adjustment B deck)

● NORMAL speed adjustment
1. Remove the short pin from CN311. Then at NORMAL speed mode.
2. Adjust RV372 so that the frequency counter reads 3000 ± 10Hz.

Adjustment Location: TC MAIN board

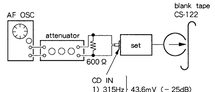
Playback Level Adjustment (PB)
Procedure:
Mode : FWD Playback



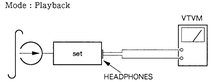
DECK-A side RV101 (L-CH), RV201 (R-CH)
DECK-B side RV102 (L-CH), RV202 (R-CH)
so that the limits below are satisfied.

Adjustable limits:
CN312 level : 461.6 – 411.4mV (– 4.5 – – 5.5dB)
level difference between the channels : within 1.0dB
(See page 7 for Adjustment Location)

Record BIAS Current Adjustment (BIAS)
Procedure:
1. Mode : record



2. Mode : Playback

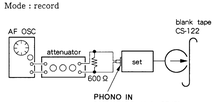


(1) Supply a 43.6mV (– 25dB) signal (315Hz) from the CD IN. Adjust the VOLUME control so that a 24.5mV (– 30dB) signal is output to the headphones terminal.
(2) Insert alignment tape CS-122 into deck B and put the set into the REC mode.
(3) Adjust the signal frequency to 10kHz.
(4) Put the set into the PB mode and adjust RV151 (L-CH) and RV251 (R-CH) in the REC mode so that the level difference between 315Hz and 10kHz is within 0 ± 0.5dB.
(5) Repeatedly put the set into the REC and PB modes two to four times and adjust the bias.

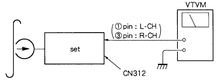
Adjustable limits:
The HEADPHONES level of 10kHz signal relative to that of 315Hz : 0dB ± 0.5dB

Record Level Adjustment (REC)
Setting:
TAPE SELECT : TYPE 1

Procedure:
1. Mode : record



2. Mode : playback



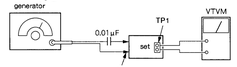
(1) Supply a 43.6mV (– 25dB) signal (315Hz) from the CD terminal.
(2) Insert alignment tape CS-122 into deck B and record the signal. Then playback the recorded portion of the tape and adjust RV103 (L-CH) and RV203 (R-CH) so that the 43.6mV (– 25dB) signal output is obtained at CN312 terminal.

Adjustable limits:
CN312 level : 46.2 – 41.1mV (– 24.5 – – 25.5dB)

TUNER SECTION

As FM FRONT-END FE301 is difficult to repair if faulty, replace it with new one.

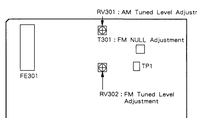
FM NULL Adjustment



Carrier frequency : 98MHz
Output level : 1mV (60dB μ)
Modulation : 1kHz, 75kHz deviation

Procedure:
1. Tune the set to 98MHz.
2. Adust T301 for 0V reading on the VTVM.

Asustment Location:
【MAIN BOARD】 – Component side –

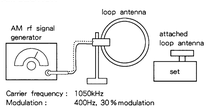


FM Tuned Level Adjustment
Setting:
STEREO／MUTE : OFF

Carrier frequency : 98MHz
Output level : 1mV (60dB μ)
Modulation : 1kHz, 75kHz deviation

Procedure:
1. Tune the set to 98MHz.
2. Adust RV302 to the point where "TUNED"sign on FL601 just turns lighet.

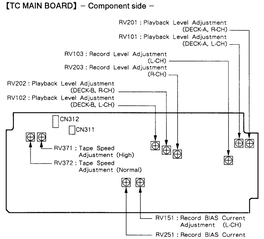
● **AM SECTION**



Carrier frequency : 1050kHz
Modulation : 400Hz, 30％modulation

AM Tuned Level Adjustment
● **AM BAND**
1. Set loop antenna input level to 94dB μ／m and no signal tuned light should not on.
2. Tune the set to 1050kHz.
3. Adjust RV301 to the point where "TUNED"sign on FL601 just turns light.

Asustment Location:
【TC MAIN BOARD】 – Component side –


RV201 : Playback Level Adjustment (DECK-A, R-CH)
RV101 : Playback Level Adjustment (DECK-A, L-CH)
RV103 : Record Level Adjustment (L-CH)
RV203 : Record Level Adjustment (R-CH)
RV202 : Playback Level Adjustment (DECK-B, R-CH)
RV102 : Playback Level Adjustment (DECK-B, L-CH)
CN312
CN311
RV371 : Tape Speed Adjustment (High)
RV372 : Tape Speed Adjustment (Normal)
RV151 : Record BIAS Current Adjustment (L-CH)
RV251 : Record BIAS Current Adjustment (R-CH)

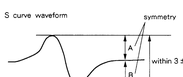
3-3. ELECTRICAL BLOCK CHECKING

CD SECTION

Note:
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10M Ω impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check

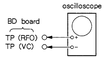
Procedure:
1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus search when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3 ± 1 Vp-p.



5. After check, remove the lead wire connected in step 2.

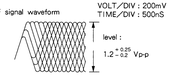
Note:
- Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

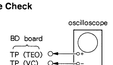


Procedure:
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS – 18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

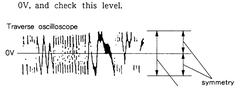
Note: Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.



E-F Balance Check

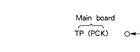


Procedure:
1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.



6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check
Procedure:
1. Connect frequency counter to test point (PCK) with lead wire.

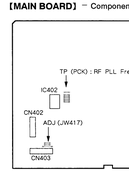


2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

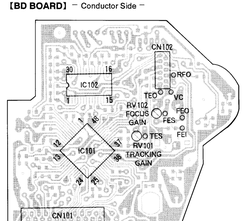
Focus / Tracking Gain

This gain has a margin, so even if it is slightly off. There is no problem.
Therefore, do not perform, this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

【MAIN BOARD】 – Component Side –



【BD BOARD】 – Conductor Side –



SECTION 4
DIAGRAMS

4-1. PRINTED WIRING BOARDS – AUDIO Section –

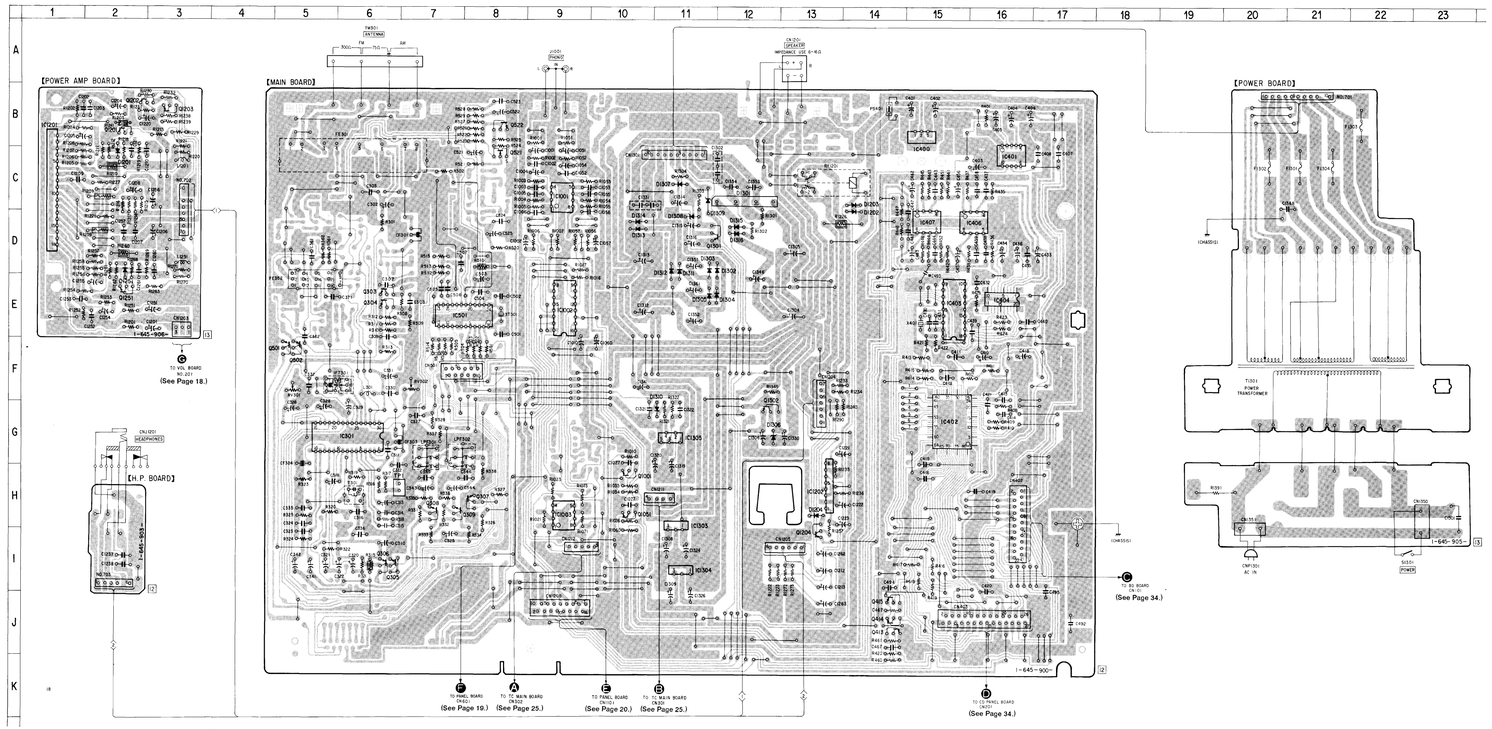
- See page 24 for Semiconductor Lead Layouts.
- See Page 37 for Circuit Boards Location.

- Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D1201	C-2	IC1002	E-9
D1202	C-14	IC1003	H-9
D1203	C-14	IC1201	B-1
D1204	H-13	IC1202	H-13
D1251	E-2	IC1303	H-11
D1301	C-12	IC1304	I-11
D1302	D-11	IC1305	G-11
D1303	D-11		
D1304	E-11	Q303	E-6
D1305	E-11	Q304	E-6
D1306	G-12	Q305	I-6
D1307	C-11	Q306	I-6
D1308	D-11	Q307	H-8
D1309	C-11	Q308	H-7
D1310	G-11	Q309	H-7
D1311	D-11	Q413	J-14
D1312	D-11	Q414	J-14
D1313	D-10	Q415	J-14
D1314	D-10	Q501	F-5
D1315	D-12	Q502	F-5
D1316	D-12	Q521	C-8
		Q522	B-8
IC301	G-6	Q1001	H-10
IC400	B-15	Q1051	H-10
IC401	C-16	Q1201	B-2
IC402	G-15	Q1202	B-2
IC403	E-15	Q1203	B-3
IC404	E-16	Q1204	I-13
IC406	D-16	Q1251	E-2
IC407	D-15	Q1301	D-11
IC501	E-7	Q1302	G-12
IC1001	C-9		

Note:

- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ▒▒ : pattern on the side which is seen.


【POWER AMP BOARD】
【MAIN BOARD】
【POWER BOARD】
【H.P. BOARD】
TO MAIN BOARD (See Page 18.)
TO PANEL BOARD (See Page 19.)
TO TO MAIN BOARD (See Page 25.)
TO PANEL BOARD (See Page 20.)
TO TO MAIN BOARD (See Page 25.)
TO PANEL BOARD (See Page 34.)
TO SD BOARD (See Page 34.)
I-645-906-
I-640-905-
I-645-905-

【MAIN BOARD (2/3)】

【POWER AMP BOARD】

【H.P BOARD】

【POWER BOARD】

IC1001 PHONO AMP

IC1002 FUNCTION SWITCH

IC1003 AMP

IC1201 POWER AMP

IC1202 PROTECT

IC1303 REG

IC1304 REG

IC1305 REG

(See Page 21.)

(See Page 23.)

(See Page 31.)

(See Page 32.)

(See Page 32.)

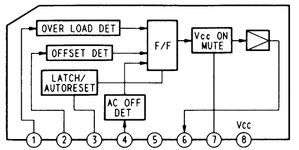
(See Page 38.)

(See Page 29.)

(See Page 29.)

• IC Block Diagram

IC1202 μPC1237HA



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- : B+ line.
- : B− line.
- Voltage and waveforms are dc with respect to ground under no -signal (detuned) conditions.
- Voltages are taken with a VOM. (Input impedance 10MΩ) Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM ⇨ : PB (DECK A)

4-3. PRINTED WIRING BOARDS – PANEL Section –

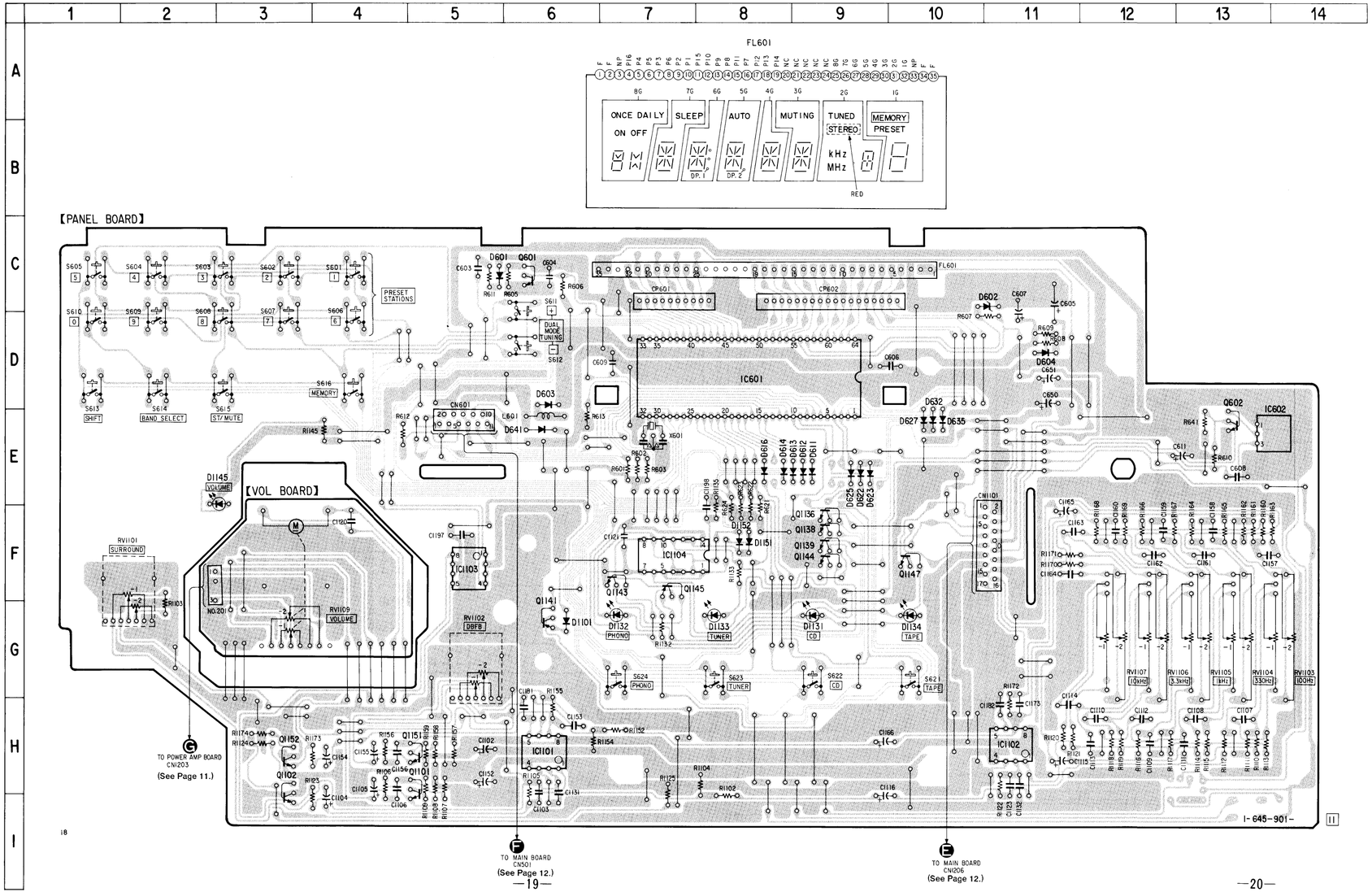
• See page 24 for Semiconductor Lead Layouts. • See Page 37 for Circuit Boards Location.

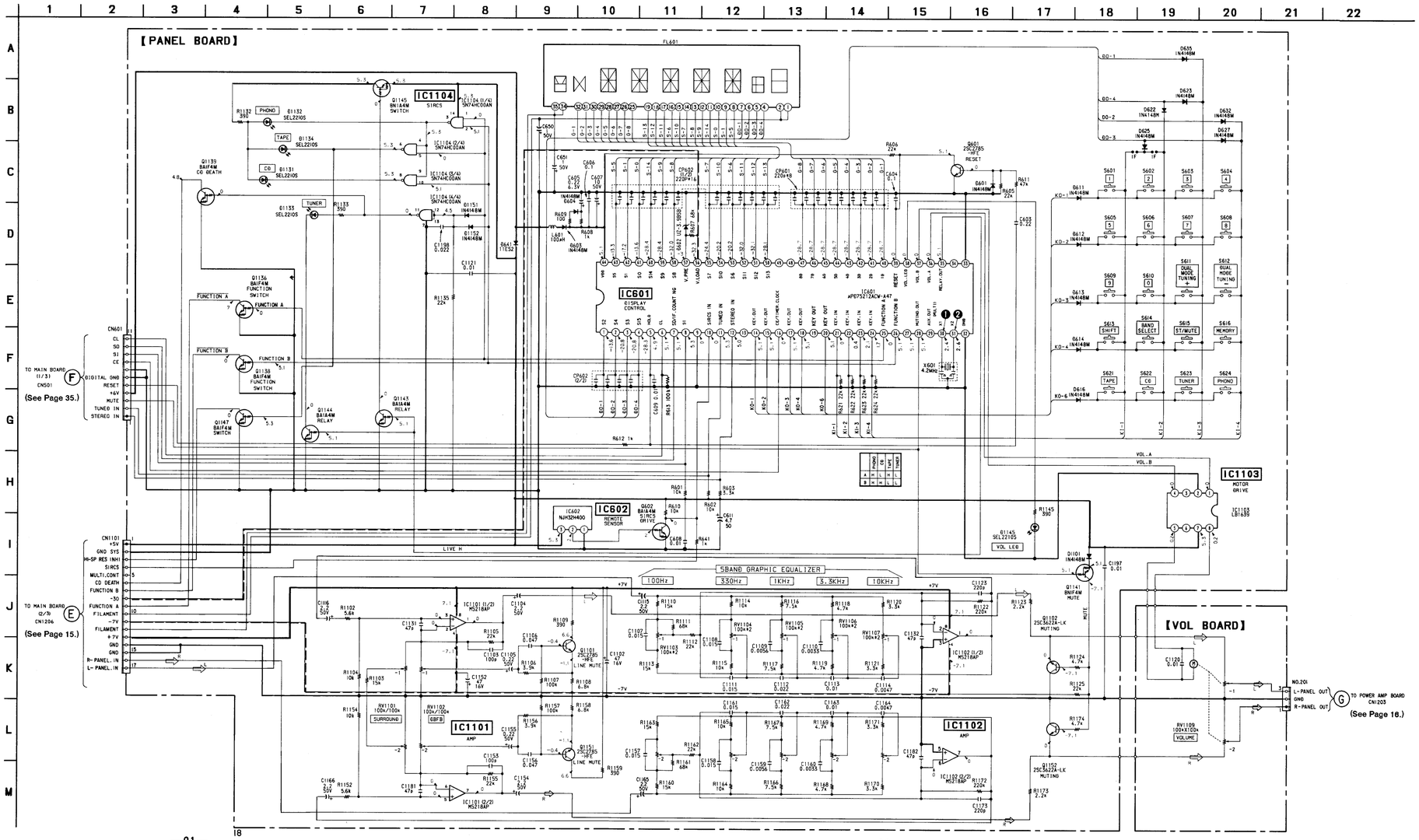
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D601	C-5	D1152	F-8
D602	C-11		
D603	D-6	IC601	D-8
D604	D-11	IC602	H-13
D611	E-9	IC1101	H-6
D612	E-9	IC1102	H-11
D613	E-9	IC1103	F-5
D614	E-8	IC1104	F-7
D616	E-8		
D622	E-9	Q601	C-6
D623	E-9	Q602	E-13
D625	E-9	Q1101	H-5
D627	E-10	Q1102	H-3
D632	E-10	Q1136	F-9
D635	E-10	Q1138	F-9
D641	E-6	Q1139	F-9
D1101	G-6	Q1141	G-6
D1131	G-9	Q1143	F-7
D1132	G-7	Q1144	F-9
D1133	G-8	Q1145	F-7
D1134	D-10	Q1147	F-10
D1145	E-3	Q1151	H-5
D1151	F-8	Q1152	H-3

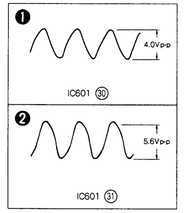
Note:

- ○—— : parts extracted from the component side.
- ▒▒▒ : pattern on the side which is seen.





- Waveforms

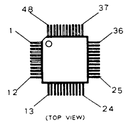


Note:

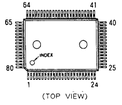
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- ——— : B+ line.
- - - - : B− line.
- Voltage and waveforms are dc with respect to ground under no -signal (detuned) conditions.
- Voltages are taken with a VOM. (Input impedance 10MΩ)
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM

4-5. SEMICONDUCTOR LEAD LAYOUTS

CXA1372AQ



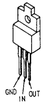
CXD2500BQ
CXP50112-241Q



LA6532M

L78MR06

M5F79M07L

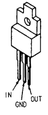


M54641L
μPC1237HA

PCM-67U-B

STK-4122MK2

TA7807S



DTA114ES
DTA124ES
DTA144ES
DTC114ES
DTC124ES
DTC144ES
2SC2669-OY
2SC3622A-LK

2SB1094-LK
2SD2012

2SC945-P
2SC3112-B
2SC1841-PAFAEA

2SC1175-HFE
2SC2785-HFE

2SK246-GR3

RBA-402

UZ-3.9BSB
UZL-12M3
UZL-33L
UZP-5.6B
1N4148M
11ES2

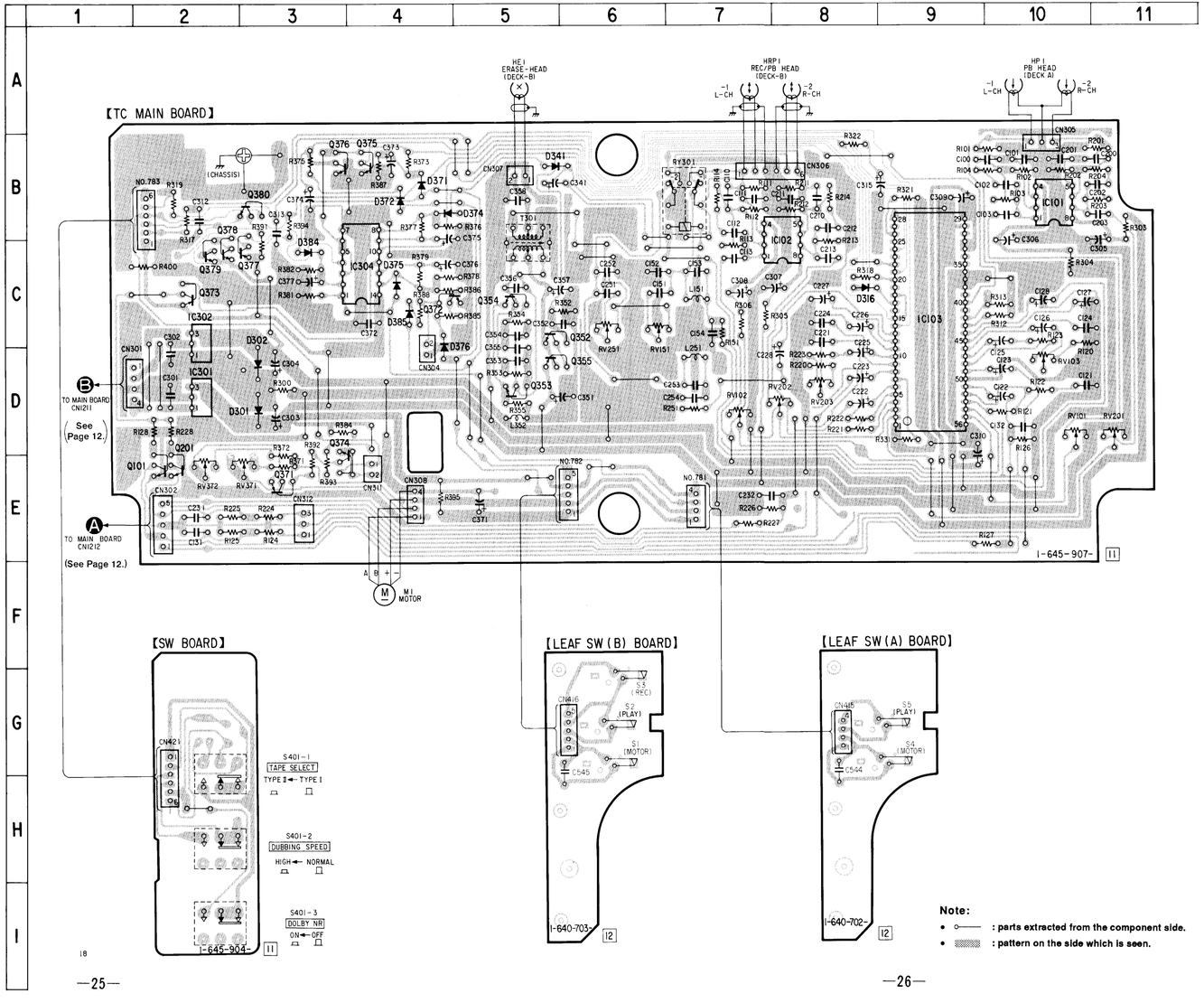
SEL2210S-CD

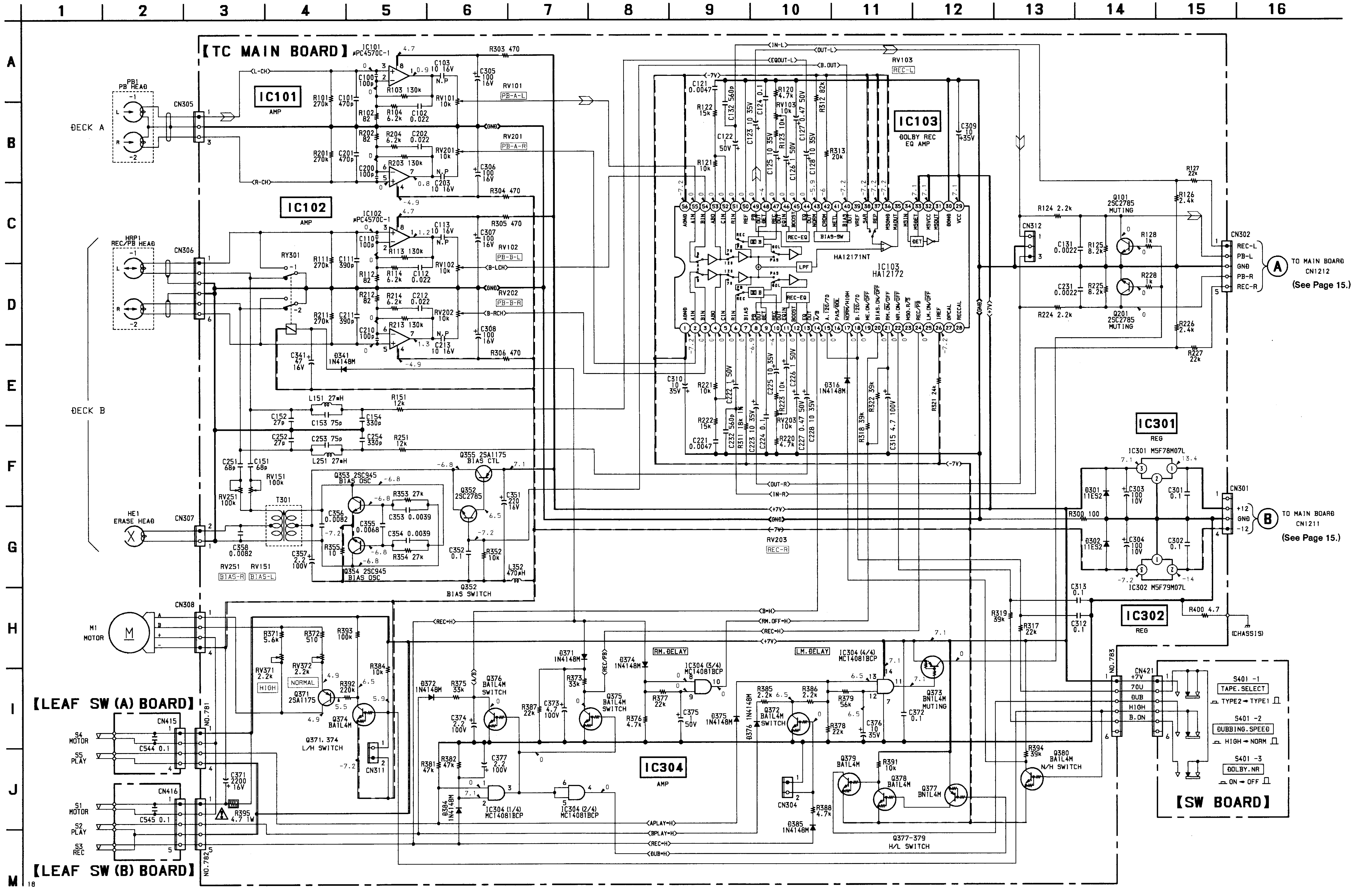
● **Semiconductor Location**

Ref. No.	Location
D301	D-3
D302	D-3
D316	C-8
D341	B-5
D371	B-4
D372	B-4
D374	B-4
D375	C-4
D376	D-4
D384	C-3
D385	C-4
IC101	B-10
IC102	C-8
IC103	C-9
IC301	D-2
IC302	C-2
IC304	C-4
Q101	E-2
Q201	E-2
Q352	C-6
Q353	D-5
Q354	C-5
Q355	D-6
Q371	E-3
Q372	C-4
Q373	C-2
Q374	E-3
Q375	B-4
Q376	B-3
Q377	C-3
Q378	C-2
Q379	C-2
Q380	B-3

4-6. PRINTED WIRING BOARDS – TC Section –

● See page 24 for Semiconductor Lead Layouts. ● See Page 37 for Circuit Boards Location.




【TC MAIN BOARD】
IC101 AMP
IC102 AMP
IC103 DOLBY REC EQ AMP
IC103 HA12172
HA12171NT
IC301 REG
IC301 M5F78M07L
IC302 REG
IC302 M5F79M07L
IC304 AMP
DECK A
DECK B
PB1 PB HEAD
HRP1 REC/PB HEAD
HE1 ERASE HEAD
M1 MOTOR
CN305
CN306
CN307
CN308
CN302
REC-L
PB-L
GND
PB-R
REC-R
TO MAIN BOARD CN1212
(See Page 15.)
CN301
+12
GND
-12
TO MAIN BOARD CN1211
(See Page 15.)
Q101 2SC2785 MUTING
Q201 2SC2785 MUTING
Q355 2SA1175 BIAS CTL
Q352 2SC2785
Q353 2SC945 BIAS OSC
Q354 2SC945 BIAS OSC
Q352 BIAS SWITCH
Q371, 374 L/H SWITCH
Q376 BA1L4M SWITCH
Q375 BA1L4M SWITCH
Q372 BA1L4M SWITCH
Q373 BN1L4M MUTING
Q380 BA1L4M N/H SWITCH
Q377-379 H/L SWITCH
RM.DELAY
LM.DELAY
【LEAF SW (A) BOARD】
【LEAF SW (B) BOARD】
【SW BOARD】
S401 -1 TAPE.SELECT
TYPE2 ← TYPE1
S401 -2 DUBBING.SPEED
HIGH ← NORM
S401 -3 DOLBY.NR
ON ← OFF
(CHASSIS)

Note:

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬ : B+ line.
- ▬ ▬ ▬ : B– line.
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no -signal (detuned) conditions.
- Voltages are taken with a VOM. (Input impedance 10MΩ) Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⊳ : PB (DECK A)

4-8. SCHEMATIC DIAGRAMS – CD Section –

• Waveforms

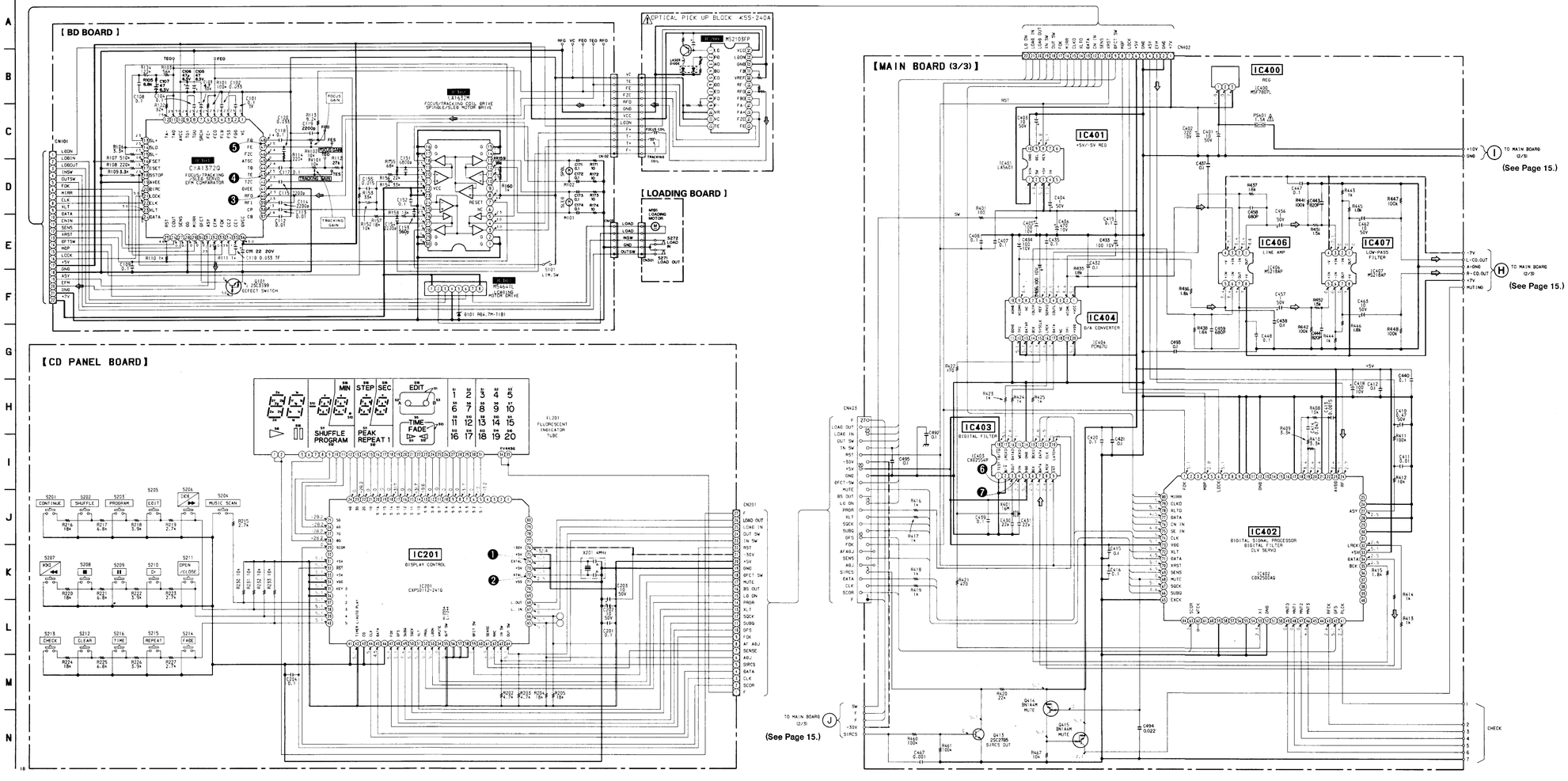
❶ 4.0MHz, 4.4Vp-p IC201 (74)	❺ APPROX. 100mVp-p, 2.5V IC101 (47) PLAY
❷ 4.0MHz, 5.8Vp-p IC201 (72)	❻ 16MHz, 4.0Vp-p IC403 (3)
❸ 1.2Vp-p IC101 (46) PLAY	❼ 16MHz, 3.8Vp-p IC403 (4)
❹ APPROX. 500mVp-p, 2.5V IC101 (43) PLAY	

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.

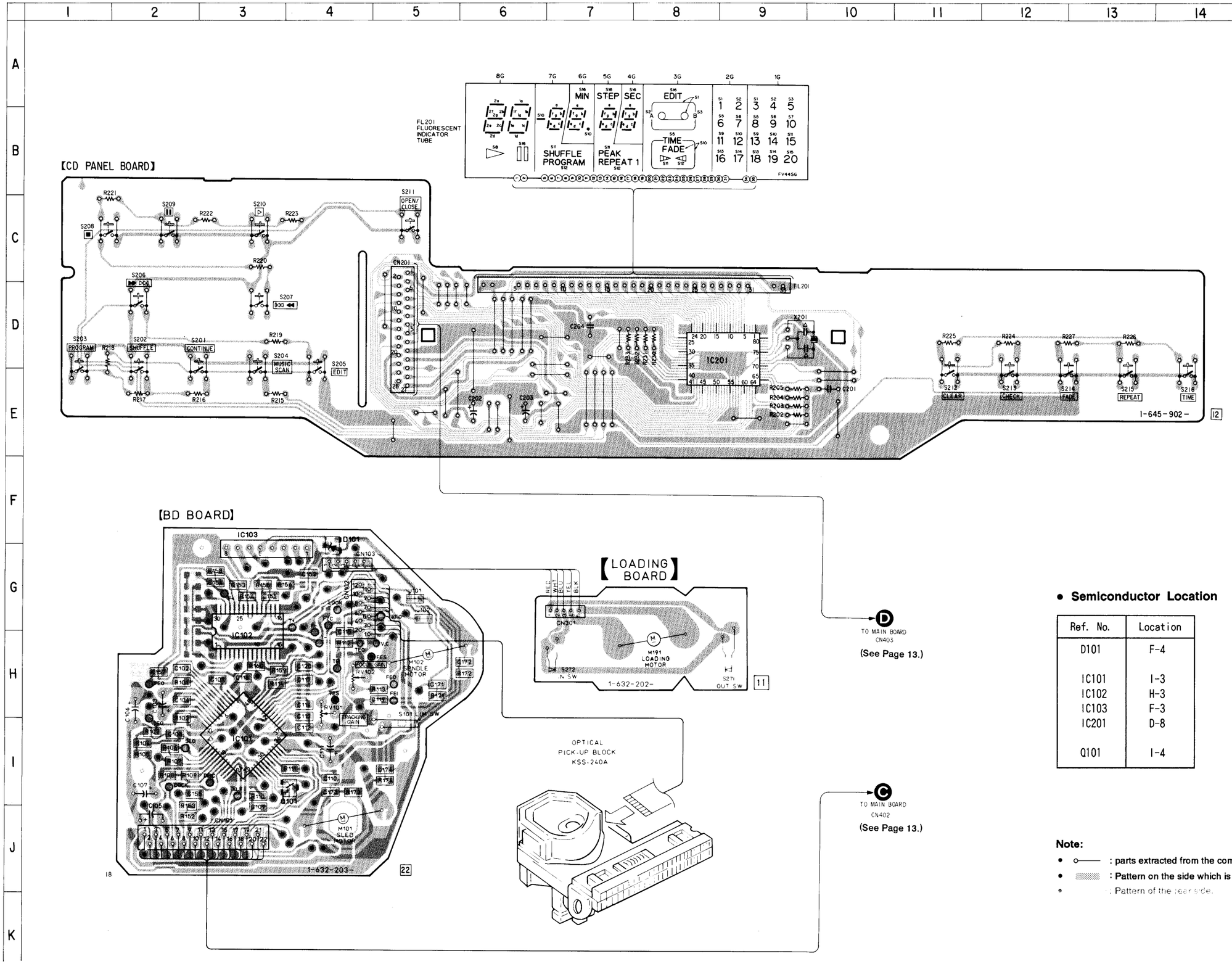
Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ——— : B+ line.
- - - - : B– line.
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground.
- Voltages are taken with a VOM. (Input impedance 10MΩ)
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD



4-9. PRINTED WIRING BOARDS – CD Section –

• See page 24 for Semiconductor Lead Layouts. • See Page 37 for Circuit Boards Location.


FL201 FLUORESCENT INDICATOR TUBE
8G 7G 6G 5G 4G 3G 2G 1G
MIN STEP SEC EDIT TIME FADE SHUFFLE PROGRAM PEAK REPEAT 1
【CD PANEL BOARD】
S208 S209 S210 S211 OPEN/CLOSE S206 S207 S203 PROGRAM S202 SHUFFLE S201 CONTINUE S204 MUSIC SCAN S205 EDIT
CN201 IC201 X201 C201 C202 C203 C204
S212 CLEAR S213 CHECK S214 FADE S215 REPEAT S216 TIME
1-645-902-
【BD BOARD】
IC101 IC102 IC103 D101 Q101 M101 SLED MOTOR M102 SPINDLE MOTOR S101 LIM SW
1-632-203-
【LOADING BOARD】
CN301 M191 LOADING MOTOR S272 IN SW S271 OUT SW
1-632-202-
OPTICAL PICK-UP BLOCK KSS-240A
TO MAIN BOARD CN403 (See Page 13.)
TO MAIN BOARD CN402 (See Page 13.)

• Semiconductor Location

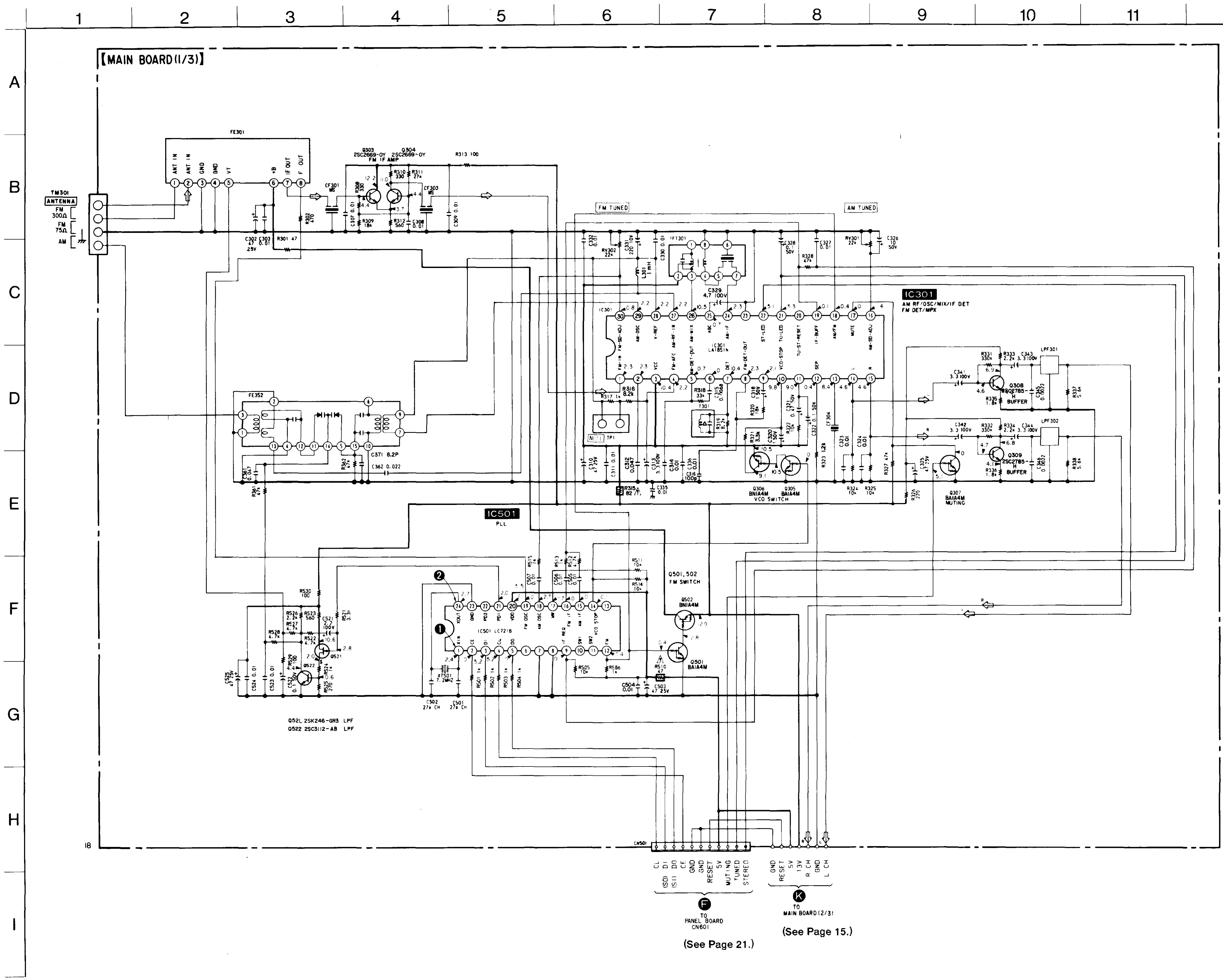
Ref. No.	Location
D101	F-4
IC101	I-3
IC102	H-3
IC103	F-3
IC201	D-8
Q101	I-4

Note:

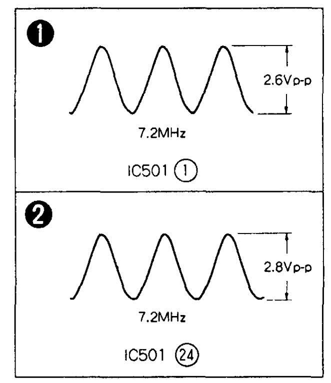
- ○—— : parts extracted from the component side.
- ▒▒▒ : Pattern on the side which is seen.
- ····· : Pattern of the reverse side.

4-10. SCHEMATIC DIAGRAMS – TUNER Section –

• See Page 37 for IC Block Diagrams.



• Waveforms



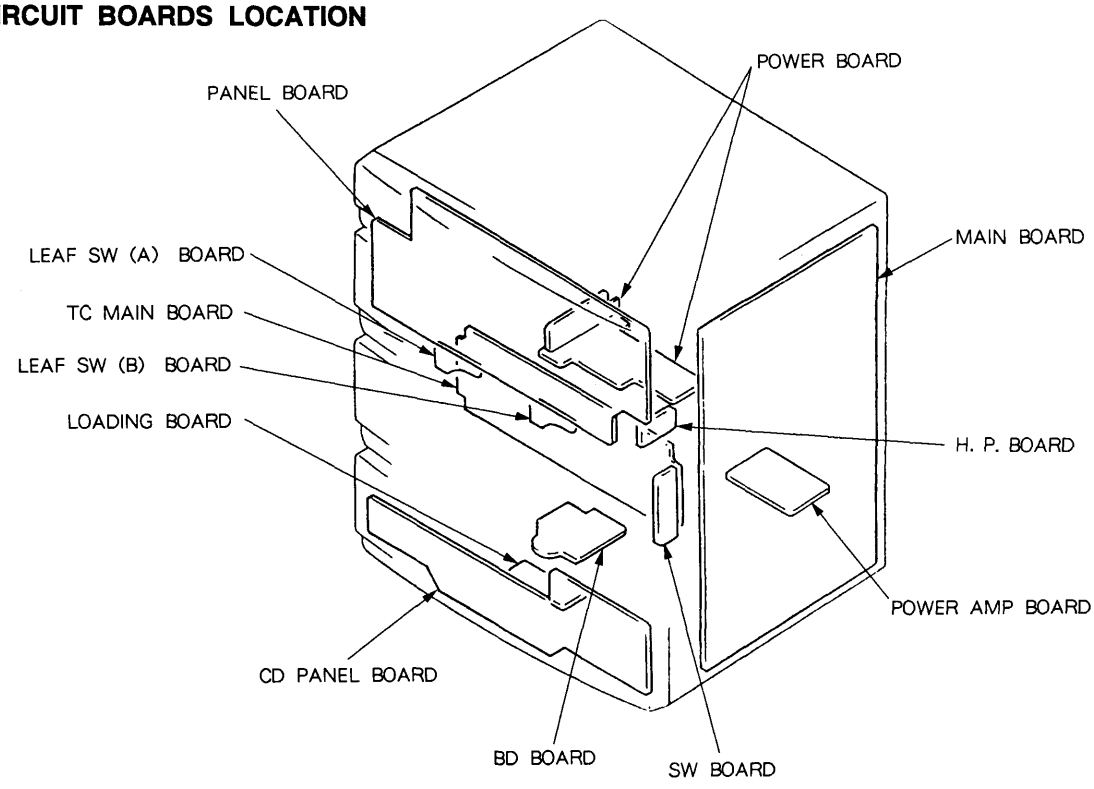
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- ⊡ : nonflammable resistor.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

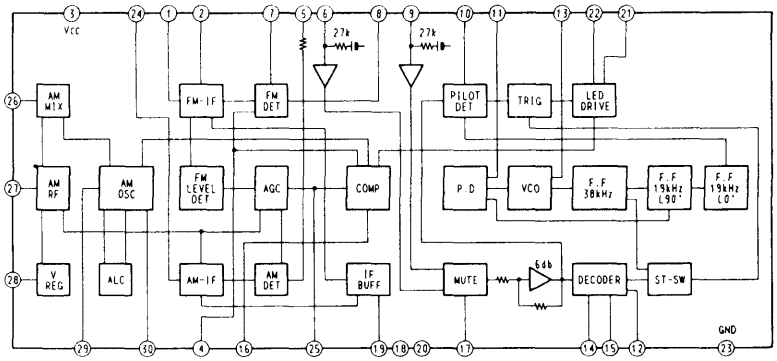
- ▬ : B+ line.
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no -signal (detuned) conditions.
- Voltages are taken with a VOM. (Input impedance 10MΩ) Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM

4-11. CIRCUIT BOARDS LOCATION

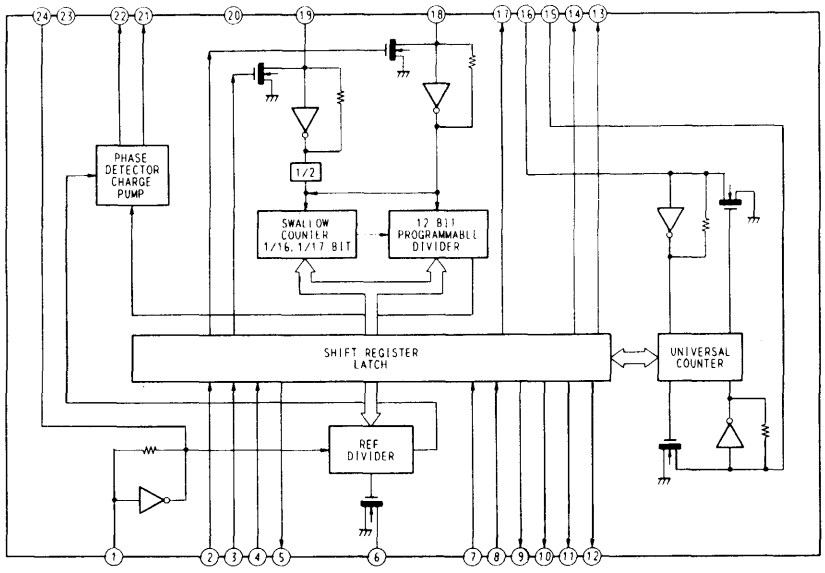


- **IC Block Diagrams**

IC301 LA1851N



IC501 LC7218



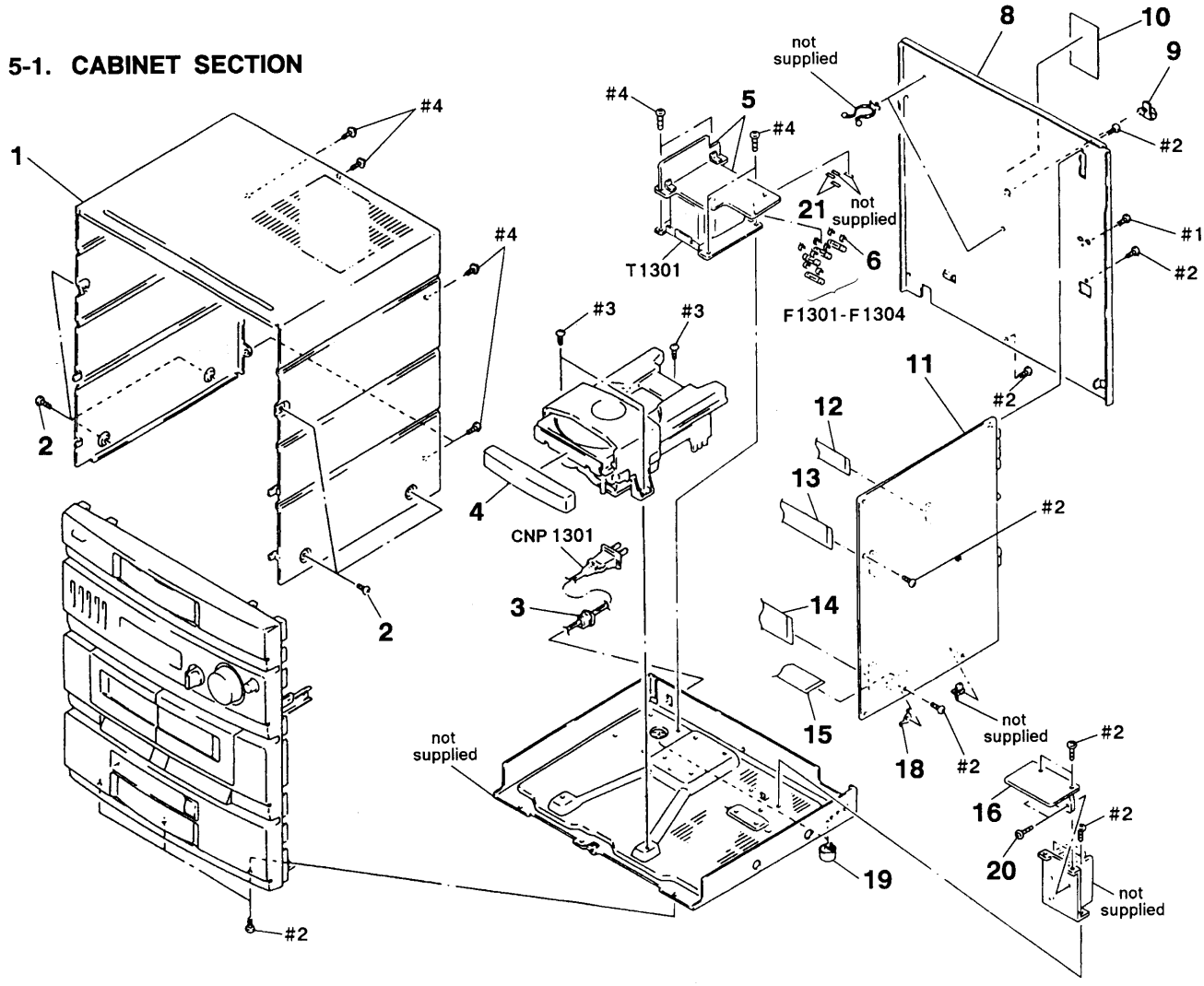
SECTION 5
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE)... (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardwear (#mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

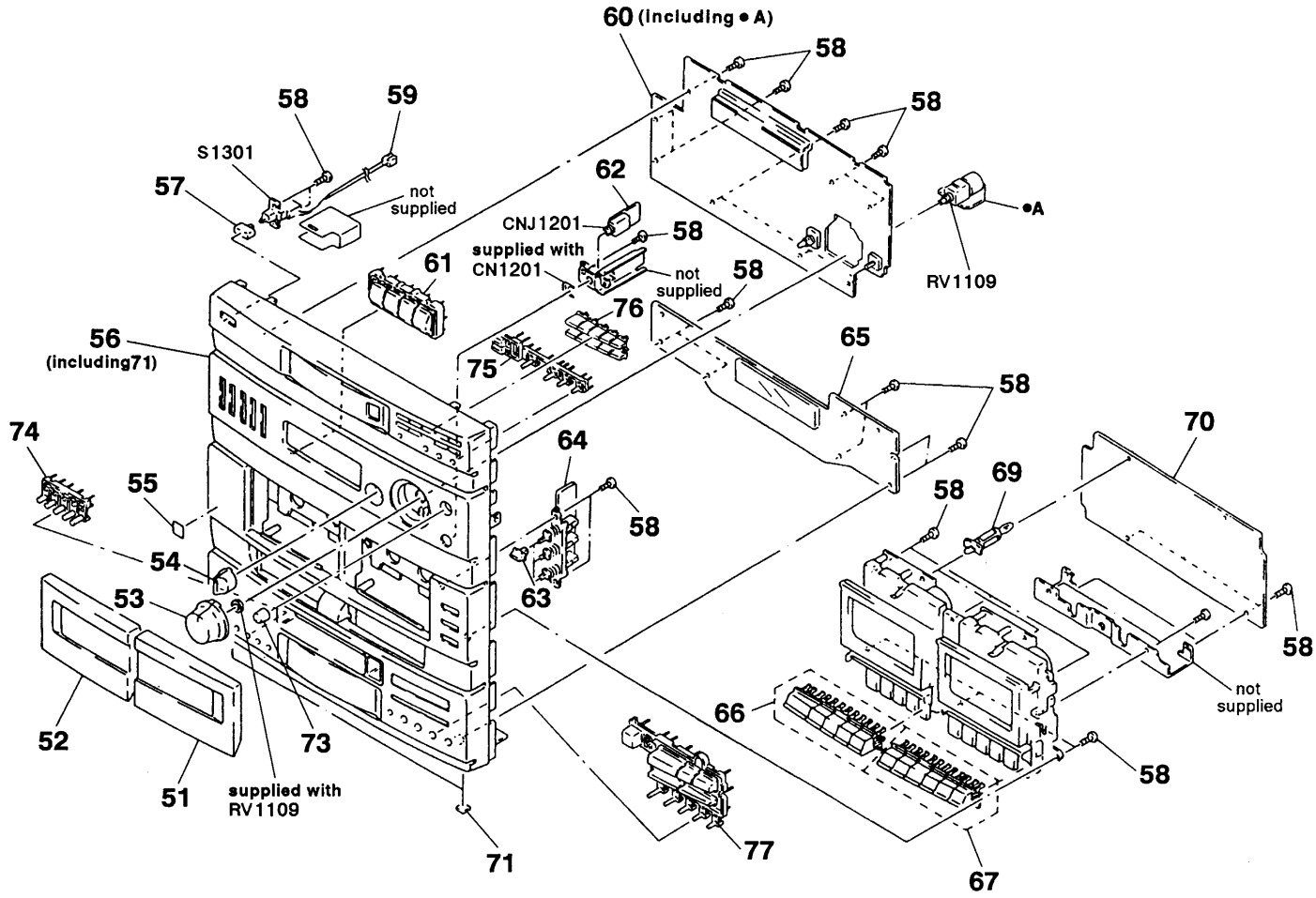
Les components identifiés parune marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par unepièc portant le numéro spéccifié.

5-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
* 1	4-943-170-72	CASE	
2	3-363-099-01	SCREW (CASE 3 TP2)	
* 3	3-703-244-00	BUSHING (2104), CORD	
4	4-955-641-11	PANEL, LOADING	
* 5	1-645-905-13	POWER BOARD	
6	1-533-217-31	HOLDER, FUSE	
* 8	4-955-700-12	PANEL, BACK (US)	
* 8	4-955-700-22	PANEL, BACK (Canadian)	
* 9	4-949-235-01	HOOK	
* 10	4-950-766-01	LABEL, FCC DIGITAL DEVICE (US)	
* 11	A-4356-806-A	MAIN BOARD, COMPLETE	
12	1-590-459-11	WIRE, FLAT TYPE (11 CORE)	
13	1-696-930-11	WIRE (FLAT TYPE) (17 CORE)	
14	1-690-729-11	WIRE, FLAT TYPE (27 CORE)	
15	1-575-002-11	WIRE, FLAT TYPE (22 CORE)	
* 16	A-4356-804-A	POWER AMPLIFIER BOARD, COMPLETE	
* 18	4-942-204-01	PLATE, GROUND	
19	X-4941-228-1	FOOT ASSY	
20	4-928-635-11	SCREW, +BV (2.6X16) TAPPING	
* 21	3-701-946-26	LABEL (4A125V), FUSE	
⚠CNP1301	1-690-609-11	CORD, POWER	
⚠F1301	1-576-107-11	FUSE (T3.15A)	
⚠F1302	1-576-107-11	FUSE (T3.15A)	
⚠F1303	1-576-108-11	FUSE (T4.0A)	
⚠F1304	1-576-108-11	FUSE (T4.0A)	
⚠T1301	1-450-818-11	TRANSFORMER, POWER	

5-2. FRONT PANEL SECTION
●A: VOL board

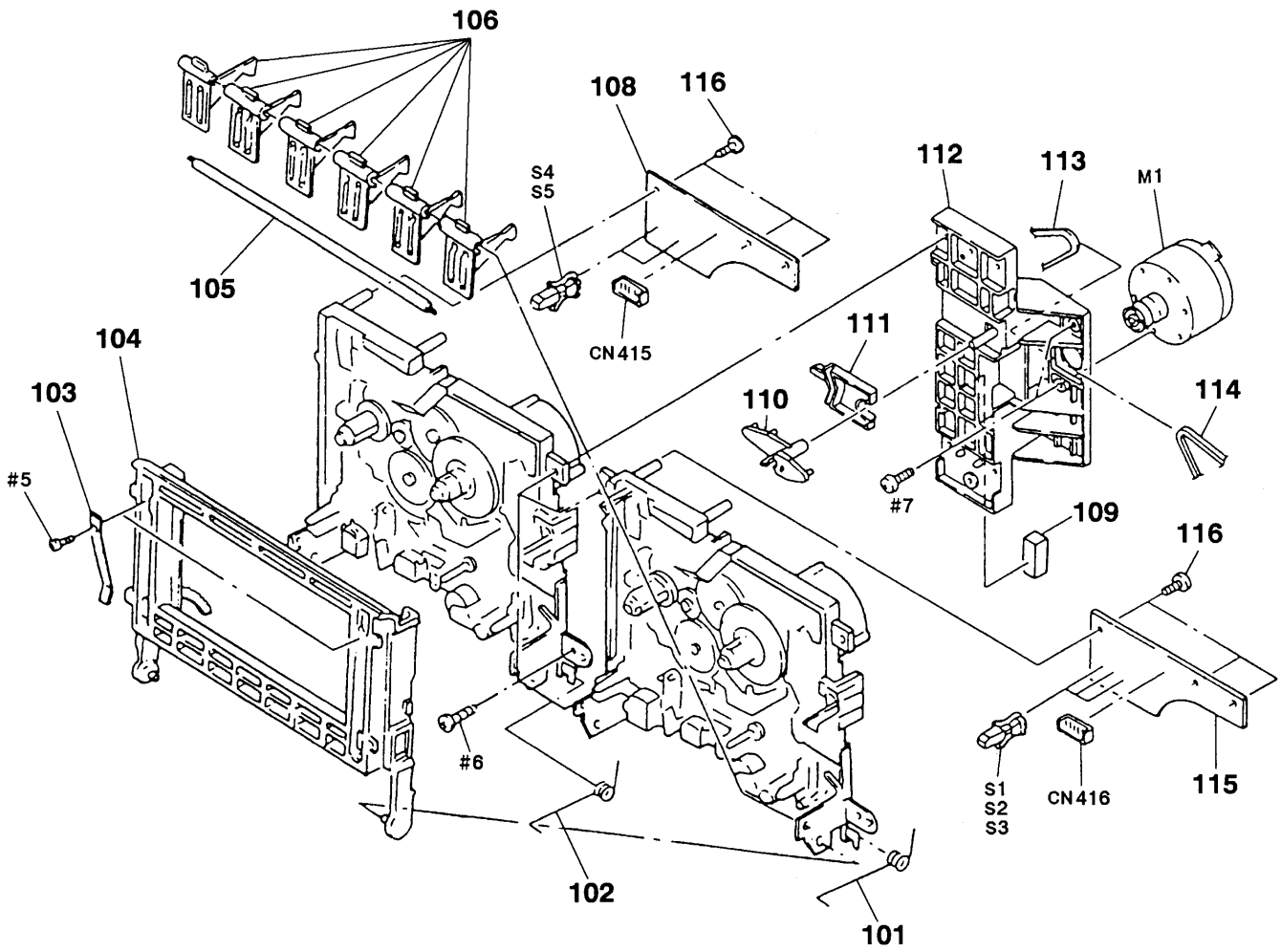


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
51	X-4943-164-1	LID (B) ASSY, CASSETTE	
52	X-4943-163-1	LID (A) ASSY, CASSETTE	
53	4-955-635-01	KNOB (V)	
54	4-955-636-01	KNOB (DB)	
* 55	3-703-713-41	STICKER, SONY SYMBOL (10)	
56	X-4943-166-1	PANEL ASSY, FRONT	
57	4-930-783-11	BUTTON (PO)	
58	4-951-620-01	SCREW (2.6X8), +BVTP	
59	1-690-708-11	CORD (WITH CONNECTOR)	
* 60	A-4356-802-A	PANEL BOARD, COMPLETE	
61	X-4943-165-1	BUTTON (FU) ASSY	
* 62	1-645-903-12	H.P. BOARD	
63	4-948-257-01	BUTTON (DDT)	
* 64	1-645-904-11	SW BOARD	
* 65	A-4356-536-A	CD PANEL BOARD, COMPLETE	
66	4-955-639-01	BUTTON (MD A)	
67	4-955-640-01	BUTTON (MD B)	

Ref. No.	Part No.	Description	Remark
* 69	4-924-098-81	HOLDER, PC BOARD	
* 70	A-4356-500-A	TC MAIN BOARD, COMPLETE	
71	4-948-236-01	CUSHION (107)	
73	4-955-744-01	KNOB (BA)	
74	4-955-743-01	BUTTON (CDB)	
75	4-955-745-01	BUTTON (ST)	
76	4-955-741-01	BUTTON (PR)	
77	4-955-742-01	BUTTON (CDA)	
CNJ12011	-569-113-11	JACK, LARGE TYPE (HEADHONES)	
RV1109	1-223-252-11	RES, VAR, CARBON 100K/100K (VOLUME)	
⚠S1301	1-572-267-61	SWITCH, PUSH (AC POWER) (1 KEY)	

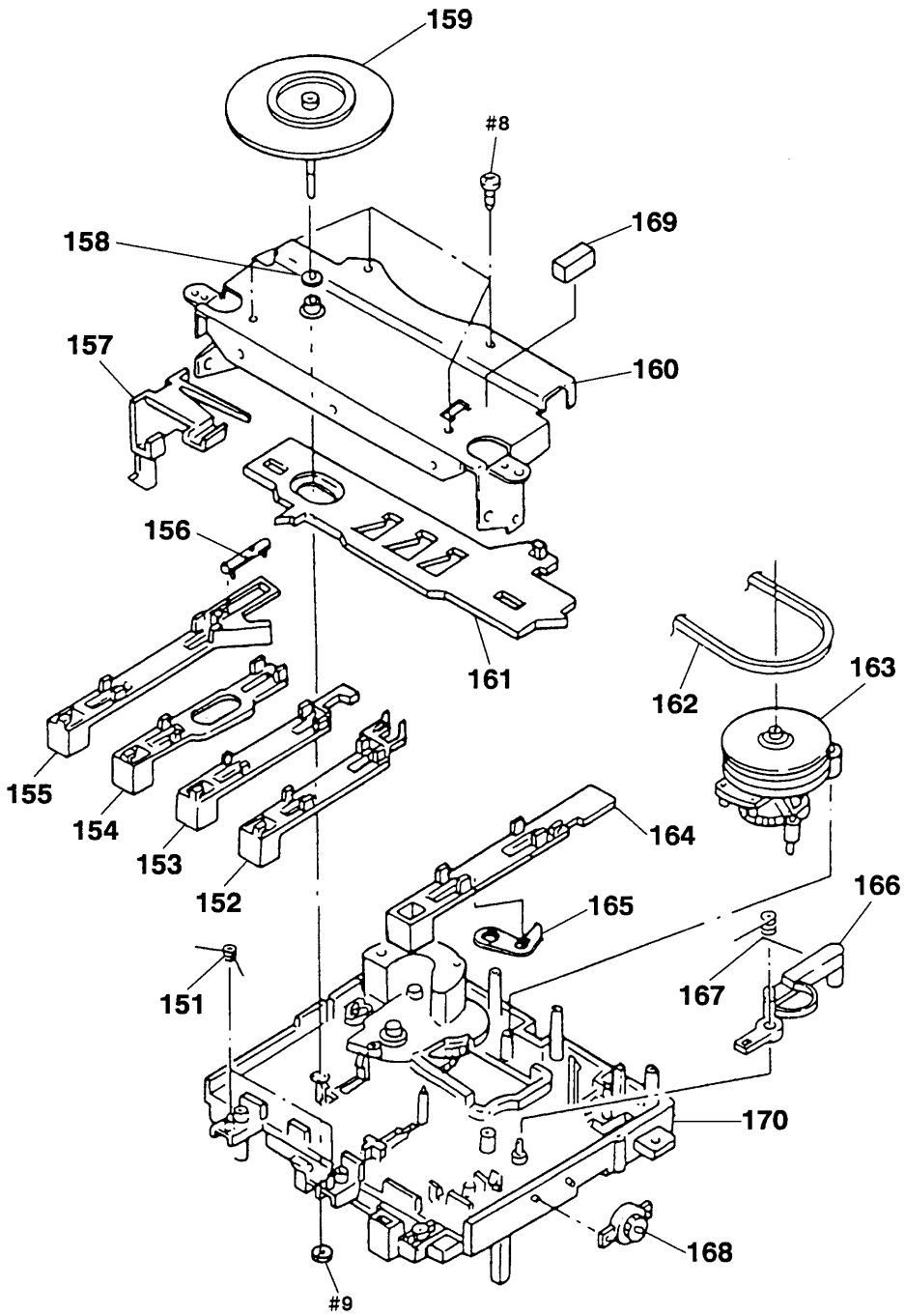
5-3. MECHANISM DECK SECTION-1 (TCM-180VW-H9)



Ref. No.	Part No.	Description	Remark
101	3-358-287-01	SPRING (LOADING A), TORSION	
102	3-358-229-01	SPRING (LOADING), TORSION	
103	3-358-209-01	SPRING (CASSETTE HOLDER), LEAF	
104	3-358-266-02	HOLDER, CASSETTE	
105	3-371-917-01	SHAFT (BUTTON SHAFT 4)	
106	3-369-335-01	LEVER (BUTTON BASE F)	
* 108	1-640-702-11	LEAF SW (A) BOARD	
* 109	3-358-289-01	SPACER (VIBRATION PROOF MAT)	
110	3-358-203-01	LEVER (TRIGGER)	
111	3-358-202-01	SLIDER (TRIGGER)	
* 112	3-363-930-01	BRACKET (JOINT BASE)	

Ref. No.	Part No.	Description	Remark
113	3-358-230-01	BELT (A1)	
114	3-364-777-01	BELT (WH)	
* 115	1-640-703-11	LEAF SW (B) BOARD	
116	4-951-620-01	SCREW (2.6X8), +BVTP	
M1	X-3362-377-1	MOTOR (WH) ASSY	
* CN415	1-564-497-11	PIN, CONNECTOR 4P	
* CN416	1-564-498-11	PIN, CONNECTOR 5P	
S1	1-571-736-11	SWITCH, LEAF (MOTOR)	
S2	1-571-736-11	SWITCH, LEAF (FWD)	
S3	1-571-736-11	SWITCH, LEAF (REC)	
S4	1-571-736-11	SWITCH, LEAF (MOTOR)	
S5	1-571-736-11	SWITCH, LEAF (FWD)	

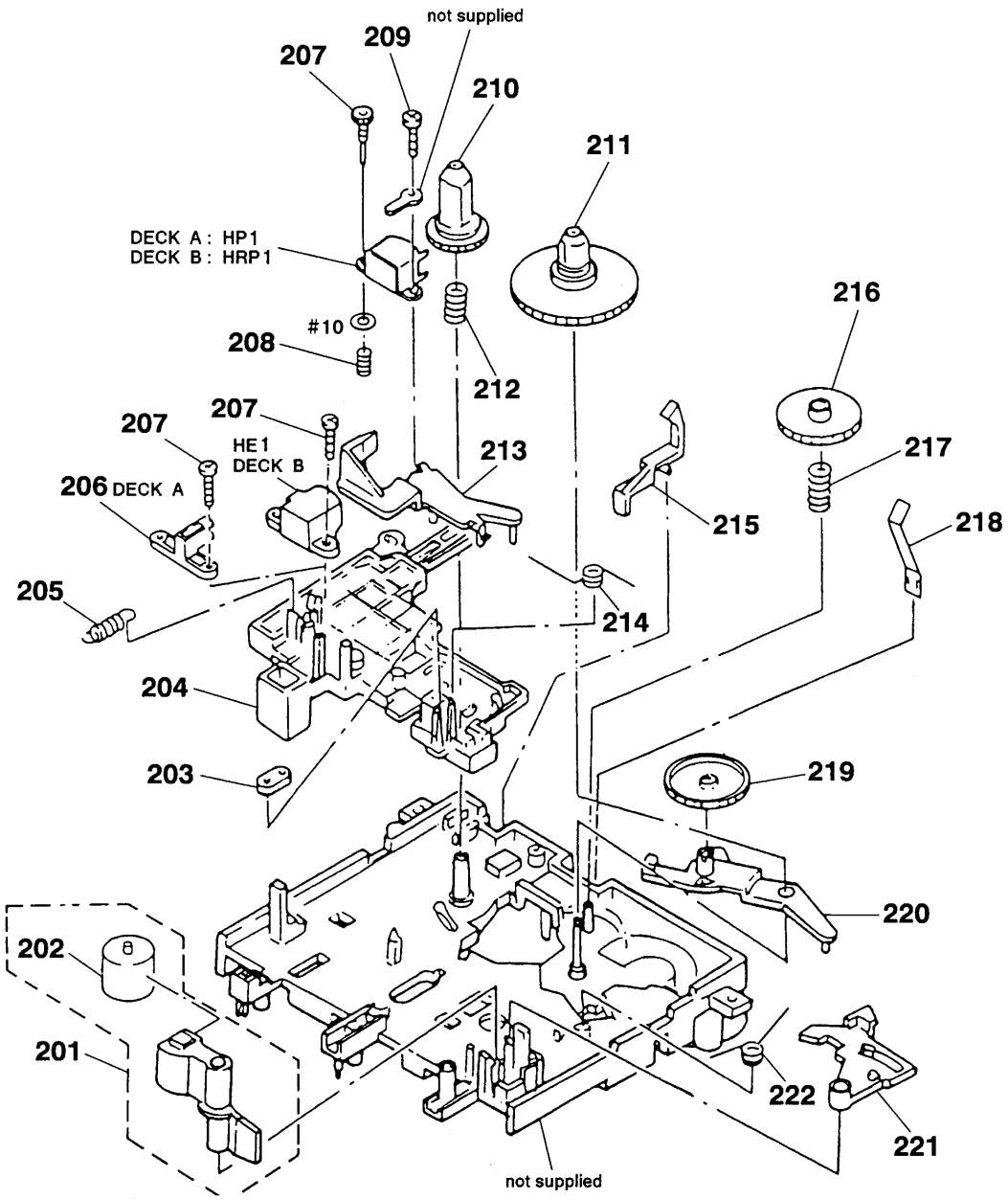
5-4. MECHANISM DECK SECTION-2 (TCM-180VW-H9)



Ref. No.	Part No.	Description	Remark
151	3-358-232-01	SPRING (S-P F-R), TORSION	
152	3-358-258-01	SLIDER (REW)	
153	3-358-257-01	SLIDER (FF)	
154	3-358-256-01	SLIDER (STOP/EJECT)	
155	3-358-260-01	SLIDER (PAUSE)	
* 156	3-358-226-01	LEVER (PAUSE LEVER)	
* 157	3-358-261-02	SLIDER (HOLDER LOCK)	
158	3-701-437-01	WASHER	
159	X-3358-206-1	FLYWHEEL (D) ASSY (DECK A)	
159	X-3358-205-1	FLYWHEEL (A) ASSY (DECK B)	
* 160	X-3358-208-1	BRACKET (B) ASSY	

Ref. No.	Part No.	Description	Remark
* 161	3-358-249-01	SLIDER (LOCK PLATE)	
162	3-358-230-01	BELT (A1)	
163	X-3358-202-1	LEVER (FR ARM) ASSY	
164	3-358-259-01	SLIDER (REC) (DECK B)	
* 165	3-358-204-01	LEVER (REC SAFETY) (DECK B)	
166	3-358-286-01	LEVER (MOTOR LEVER)	
167	3-358-214-01	SPRING (LOCK), TORSION (DECK A)	
167	3-358-233-01	SPRING (REC-LOCK), TORSION (DECK B)	
* 168	3-319-224-51	DAMPER, SMALL	
* 169	3-358-289-01	SPACER (VIBRATION PROOF MAT)	
170	X-3358-207-2	CHASSIS (A) ASSY	

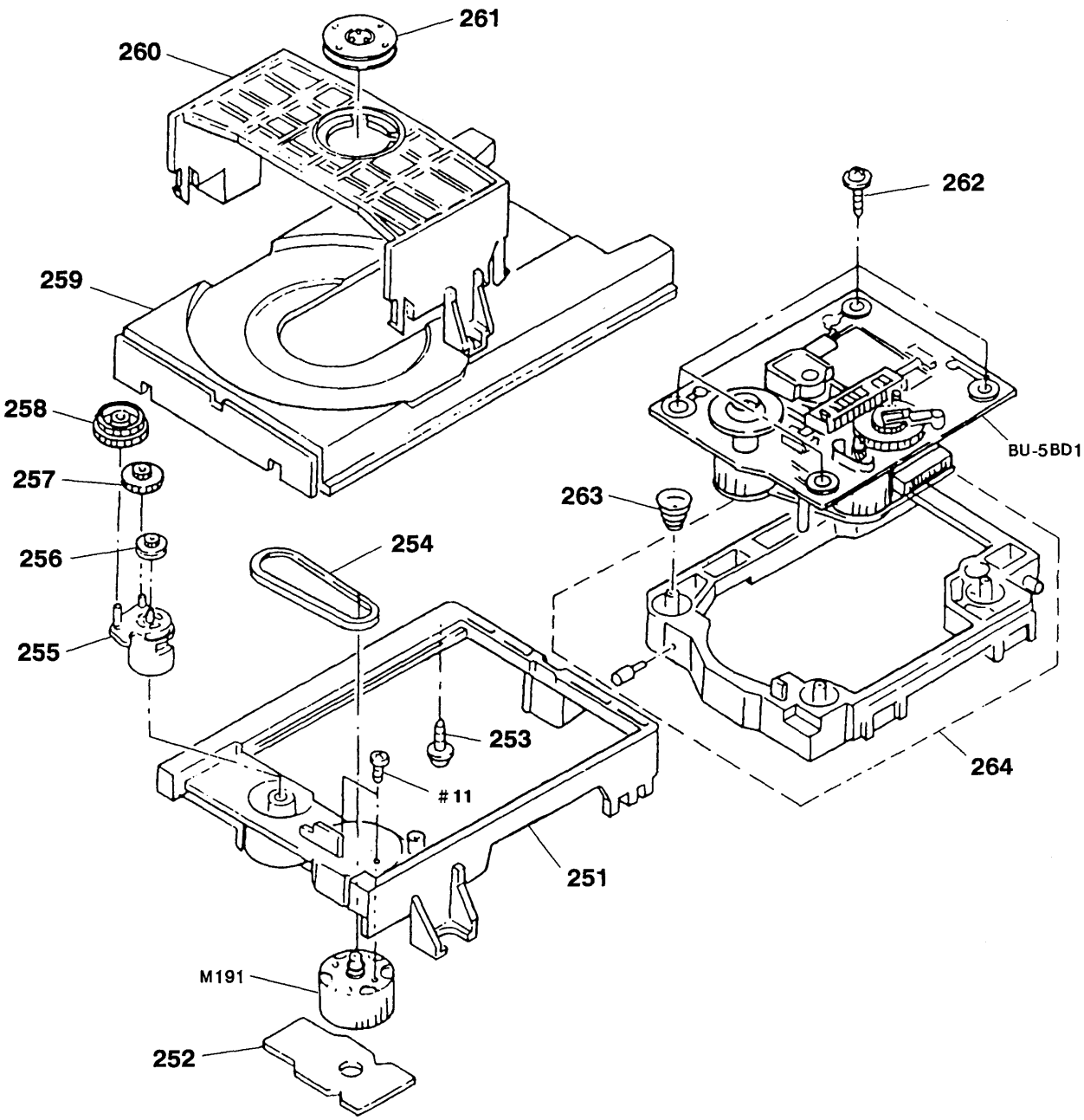
5-5. MECHANISM DECK SECTION-3 (TCM-180VW-H9)



Ref. No.	Part No.	Description	Remark
201	X-3358-204-1	LEVER (PINCH LEVER) ASSY	
202	3-578-143-11	PINCH ROLLER	
* 203	3-358-215-01	BUSHING (WIRE KIT RETAINER)	
204	3-358-265-01	SLIDER (HEAD PC BOARD A)	
205	3-358-217-01	SPRING, TENSION	
* 206	3-363-931-01	GUIDE, TAPE (DECK A)	
207	3-358-288-11	SCREW (T), AZIMUTH	
208	3-358-234-01	SPRING (AZIMUTH), COMPRESSION	
209	3-358-288-01	SCREW (T), AZIMUTH	
210	3-358-248-01	GEAR (SUPPLY REEL)	
211	X-3358-203-1	TABLE (T) ASSY, REEL	
212	3-358-208-01	SPRING (SUPPLY), COMPRESSION	

Ref. No.	Part No.	Description	Remark
* 213	3-358-251-01	LEVER (TENSION DETECTION ARM)	
214	3-358-228-01	SPRING, TORSION	
* 215	3-358-255-01	LEVER (GB LEVER) (DECK B)	
* 216	3-358-224-01	GEAR (FF GEAR)	
217	3-358-207-01	SPRING (FF GEAR), COMPRESSION	
218	3-358-227-01	SPRING, LEAF	
* 219	3-358-284-01	GEAR (TU GEAR)	
* 220	3-358-252-01	LEVER (TU ARM)	
* 221	3-358-253-01	LEVER (SHUT-OFF LEVER)	
222	3-358-243-01	SPRING (TU-SHUT), TORSION	
HE1	1-543-673-11	HEAD, MAGNETIC (ERASE) (DECK B)	
HP1	1-543-319-11	HEAD, MAGNETIC (PB) (DECK A)	
HRP1	1-543-319-11	HEAD, MAGNETIC (REC/PB) (DECK B)	

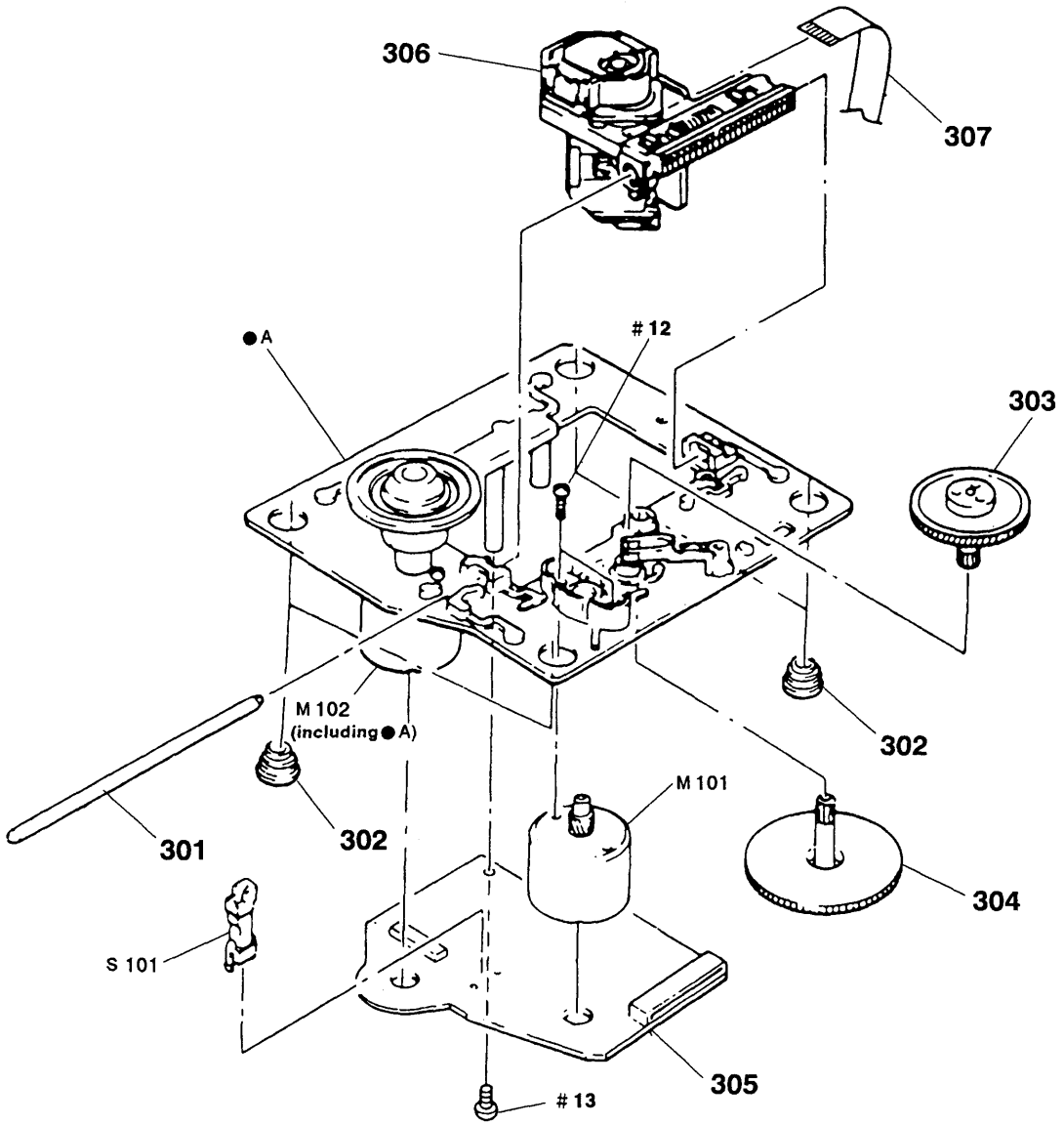
5-6. CD MECHANISM SECTION (CDM14-5BD1)



Ref. No.	Part No.	Description	Remark
251	4-933-111-01	CHASSIS (MD)	
* 252	1-632-202-12	LOADING BOARD	
* 253	4-917-583-21	BRACKET, YOKE	
254	4-927-649-01	BELT	
255	4-933-109-01	CAM	
256	4-927-651-01	PULLEY (S)	
257	4-927-628-01	GEAR (C)	

Ref. No.	Part No.	Description	Remark
258	4-933-107-01	GEAR (PL)	
259	4-933-112-01	TABLE, DISK	
260	4-933-110-01	HOLDER (MG)	
* 261	1-452-538-11	MAGNET	
262	4-933-134-01	SCREW (+PTPWH M2.6X6)	
263	4-959-996-01	SPRING (932), COMPRESSION	
264	4-933-129-01	HOLDER (BU)	
M191	A-4604-363-A	MOTOR (L) ASSY	

5-7. OPTICAL PICK-UP BLOCK SECTION (BU-5BD1)



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
301	4-917-565-01	SHAFT, SLED	
302	4-951-940-01	INSULATOR (BU)	
303	4-917-567-01	GEAR (M)	
304	4-917-564-01	GEAR (P), FLATNESS	
305	A-4617-161-A	BD BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remark
⚠306	8-848-144-11	DEVICE, OPTICAL KSS-240A	
307	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-4917-523-3	MOTOR ASSY (SPINDLE)	
S101	1-572-085-11	SWITCH, LEAF	

SECTION 6
ELECTRICAL PARTS LIST

BD

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			Remark
	A-4617-161-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C102	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C103	1-126-163-11	ELECT	4.7uF	20%	50V
C104	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C105	1-126-154-11	ELECT	47uF	20%	6.3V
C106	1-126-154-11	ELECT	47uF	20%	6.3V
C107	1-126-154-11	ELECT	47uF	20%	6.3V
C108	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C109	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C111	1-131-367-00	TANTALUM	22uF	10%	20V
C112	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C113	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C114	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C115	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C117	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C118	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C119	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C120	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C151	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C152	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C153	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C154	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C155	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C171	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C172	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C173	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C174	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN101	1-568-796-11	SOCKET, CONNECTOR 22P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
CN103	1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P			

Ref.No.	Part No.	Description			Remark
		< DIODE >			
D101	8-719-021-25	DIODE UZM4.7X			
		< IC >			
IC101	8-752-058-77	IC CXA1372AQ			
IC102	8-759-822-36	IC LA6532M			
IC103	8-759-633-65	IC M54641L			
		< JACK >			
J101	1-216-295-00	METAL CHIP	0	5%	1/10W
J102	1-216-295-00	METAL CHIP	0	5%	1/10W
		< TRANSISTOR >			
Q101	8-729-901-01	TRANSISTOR DTC144EK			
		< RESISTOR >			
R101	1-216-097-00	METAL CHIP	100K	5%	1/10W
R102	1-216-095-00	METAL CHIP	82K	5%	1/10W
R103	1-216-091-00	METAL CHIP	56K	5%	1/10W
R104	1-216-099-00	METAL CHIP	120K	5%	1/10W
R105	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R107	1-216-114-00	METAL GLAZE	510K	5%	1/10W
R108	1-216-105-00	METAL CHIP	220K	5%	1/10W
R109	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R110	1-216-049-00	METAL CHIP	1K	5%	1/10W
R111	1-216-049-00	METAL CHIP	1K	5%	1/10W
R112	1-216-083-00	METAL CHIP	27K	5%	1/10W
R113	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R114	1-216-105-00	METAL CHIP	220K	5%	1/10W
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W
R153	1-216-085-00	METAL CHIP	33K	5%	1/10W
R154	1-216-085-00	METAL CHIP	33K	5%	1/10W
R155	1-216-093-00	METAL CHIP	68K	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-216-079-00	METAL CHIP	18K	5%	1/10W
R158	1-216-079-00	METAL CHIP	18K	5%	1/10W

BD | CD PANEL | H.P. | LEAF SW (A)

Ref. No.	Part No.	Description			Remark
R159	1-216-079-00	METAL CHIP	18K	5%	1/10W
R160	1-216-049-00	METAL CHIP	1K	5%	1/10W
R171	1-216-001-00	METAL CHIP	10	5%	1/10W
R172	1-216-001-00	METAL CHIP	10	5%	1/10W
R173	1-216-001-00	METAL CHIP	10	5%	1/10W
R174	1-216-001-00	METAL CHIP	10	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-238-016-11	RES, ADJ, CARBON 10K			
RV102	1-238-016-11	RES, ADJ, CARBON 10K			
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF			
**********					
*	A-4356-536-A	CD PANEL BOARD, COMPLETE			
		**********			
*	4-942-301-01	HOLDER, FL TUBE			
		< CAPACITOR >			
C201	1-164-159-11	CERAMIC	0.1uF		50V
C202	1-124-261-00	ELECT	10uF	20%	50V
C203	1-124-261-00	ELECT	10uF	20%	50V
C204	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
* CN201	1-568-842-11	SOCKET, CONNECTOR 27P			
		< FILTER >			
FL201	1-519-611-21	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC201	8-752-832-30	IC CXP50112-241Q			
		< RESISTOR >			
R202	1-249-425-11	CARBON	4.7K	5%	1/4W
R203	1-249-425-11	CARBON	4.7K	5%	1/4W
R204	1-249-432-11	CARBON	18K	5%	1/4W
R205	1-249-432-11	CARBON	18K	5%	1/4W
R215	1-249-422-11	CARBON	2.7K	5%	1/4W
R216	1-249-432-11	CARBON	18K	5%	1/4W
R217	1-249-427-11	CARBON	6.8K	5%	1/4W
R218	1-249-424-11	CARBON	3.9K	5%	1/4W
R219	1-249-422-11	CARBON	2.7K	5%	1/4W
R220	1-249-432-11	CARBON	18K	5%	1/4W
R221	1-249-427-11	CARBON	6.8K	5%	1/4W
R222	1-249-424-11	CARBON	3.9K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R223	1-249-422-11	CARBON	2.7K	5%	1/4W
R224	1-249-432-11	CARBON	18K	5%	1/4W
R225	1-249-427-11	CARBON	6.8K	5%	1/4W
R226	1-249-424-11	CARBON	3.9K	5%	1/4W
R227	1-249-422-11	CARBON	2.7K	5%	1/4W
R230	1-249-429-11	CARBON	10K	5%	1/4W
R231	1-249-429-11	CARBON	10K	5%	1/4W
R232	1-249-429-11	CARBON	10K	5%	1/4W
R233	1-249-429-11	CARBON	10K	5%	1/4W
		< SWITCH >			
S201	1-554-303-21	SWITCH, TACTILE	(CONTINUE)		
S202	1-554-303-21	SWITCH, TACTILE	(SHUFFLE)		
S203	1-554-303-21	SWITCH, TACTILE	(PROGRAM)		
S204	1-554-303-21	SWITCH, TACTILE	(MUSIC SCAN)		
S205	1-554-303-21	SWITCH, TACTILE	(EDIT)		
S206	1-554-303-21	SWITCH, TACTILE	(▶▶ ⏭)		
S207	1-554-303-21	SWITCH, TACTILE	(⏮ ◀◀)		
S208	1-554-303-21	SWITCH, TACTILE	(■)		
S209	1-554-303-21	SWITCH, TACTILE	(▮▮)		
S210	1-554-303-21	SWITCH, TACTILE	(▷)		
S211	1-554-303-21	SWITCH, TACTILE	(⏏ :OPEN/CLOSE)		
S212	1-554-303-21	SWITCH, TACTILE	(CLEAR)		
S213	1-554-303-21	SWITCH, TACTILE	(CHECK)		
S214	1-554-303-21	SWITCH, TACTILE	(FADE)		
S215	1-554-303-21	SWITCH, TACTILE	(REPEAT)		
S216	1-554-303-21	SWITCH, TACTILE	(TIME)		
		< VIBRATOR >			
X201	1-577-358-21	VIBRATOR, CERAMIC	(4MHz)		
**********					
*	1-645-903-12	H.P. BOARD			
		**********			
		< CAPACITOR >			
C1237	1-162-282-31	CERAMIC	100PF	10%	50V
C1238	1-162-282-31	CERAMIC	100PF	10%	50V
		< JACK >			
CNJ12011-569-113-11		JACK, LARGE TYPE (HEADHONES)			
**********					
*	1-640-702-12	LEAF SW (A) BOARD			
		**********			
		< CAPACITOR >			
C544	1-164-159-11	CERAMIC	0.1MF		50V

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
* CN415	1-564-497-11	PIN, CONNECTOR 4P			
		< SWITCH >			
S4	1-571-736-11	SWITCH, LEAF (MOTOR)			
S5	1-571-736-11	SWITCH, LEAF (PLAY)			
**********					
*	1-640-703-12	LEAF SW (B) BOARD			
		**********			
		< CAPACITOR >			
C545	1-164-159-11	CERAMIC	0.1MF		50V
		< CONNECTOR >			
* CN416	1-564-498-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S1	1-571-736-11	SWITCH, LEAF (MOTOR)			
S2	1-571-736-11	SWITCH, LEAF (PLAY)			
S3	1-571-736-11	SWITCH, LEAF (REC)			
**********					
*	1-632-202-11	LOADING BOARD			
		**********			
		< CONNECTOR >			
* CN301	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
		< SWITCH >			
S271	1-572-086-11	SWITCH, LEAF			
S272	1-572-086-11	SWITCH, LEAF			
**********					
*	A-4356-806-A	MAIN BOARD, COMPLETE			
		**********			
*	4-942-204-01	PLATE, GROUND			
		< CAPACITOR >			
C302	1-124-477-11	ELECT	47uF	20%	16V
C303	1-161-379-00	CERAMIC	0.01uF	30%	16V
C307	1-161-379-00	CERAMIC	0.01uF	30%	16V
C308	1-161-379-00	CERAMIC	0.01uF	30%	16V
C309	1-161-379-00	CERAMIC	0.01uF	30%	16V
C310	1-124-477-11	ELECT	47uF	20%	16V
C311	1-161-379-00	CERAMIC	0.01uF	30%	16V
C312	1-101-006-00	CERAMIC	0.047uF		50V
C313	1-123-382-00	ELECT	3.3uF	20%	50V
C314	1-161-379-00	CERAMIC	0.01uF	30%	16V
C315	1-161-329-00	CERAMIC	0.0068uF	30%	16V
C316	1-162-282-31	CERAMIC	100PF	10%	50V
C318	1-124-903-11	ELECT	1uF	20%	50V
C320	1-124-903-11	ELECT	1uF	20%	50V
C321	1-124-902-00	ELECT	0.47uF	20%	50V
C322	1-124-463-00	ELECT	0.1uF	20%	50V
C323	1-162-306-11	CERAMIC	0.01uF	20%	16V
C324	1-162-306-11	CERAMIC	0.01uF	20%	16V
C325	1-124-477-11	ELECT	47uF	20%	16V
C326	1-124-907-11	ELECT	10uF	20%	50V
C327	1-161-379-00	CERAMIC	0.01uF	30%	16V
C328	1-124-463-00	ELECT	0.1uF	20%	50V
C329	1-124-927-11	ELECT	4.7uF	20%	50V
C330	1-161-379-00	CERAMIC	0.01uF	30%	16V
C331	1-126-176-11	ELECT	220uF	20%	10V
C332	1-161-379-00	CERAMIC	0.01uF	30%	16V
C335	1-161-379-00	CERAMIC	0.01uF	30%	16V
C336	1-161-379-00	CERAMIC	0.01uF	30%	16V
C341	1-123-382-00	ELECT	3.3uF	20%	50V
C342	1-123-382-00	ELECT	3.3uF	20%	50V
C343	1-123-382-00	ELECT	3.3uF	20%	50V
C344	1-123-382-00	ELECT	3.3uF	20%	50V
C345	1-161-375-00	CERAMIC	0.0022uF	30%	16V
C346	1-161-375-00	CERAMIC	0.0022uF	30%	16V
C361	1-164-098-11	CERAMIC	0.047uF		12V
C362	1-161-494-00	CERAMIC	0.022uF		25V
C371	1-162-198-31	CERAMIC	8.2PF	10%	50V
C401	1-124-907-11	ELECT	10uF	20%	50V
C402	1-126-176-11	ELECT	220uF	20%	10V
C403	1-124-907-11	ELECT	10uF	20%	50V
C404	1-124-903-11	ELECT	1uF	20%	50V
C405	1-124-443-00	ELECT	100uF	20%	10V
C406	1-124-472-11	ELECT	470uF	20%	10V
C407	1-164-159-11	CERAMIC	0.1uF		50V
C408	1-164-159-11	CERAMIC	0.1uF		50V
C410	1-124-902-00	ELECT	0.47uF	20%	50V
C411	1-136-153-00	FILM	0.01uF	5%	50V
C412	1-164-159-11	CERAMIC	0.1uF		50V
C413	1-161-374-11	CERAMIC	0.0015uF	30%	16V
C414	1-136-161-00	FILM	0.047uF	5%	50V
C415	1-164-159-11	CERAMIC	0.1uF		50V
C416	1-164-159-11	CERAMIC	0.1uF		50V
C418	1-124-443-00	ELECT	100uF	20%	10V
C419	1-164-159-11	CERAMIC	0.1uF		50V
C420	1-164-159-11	CERAMIC	0.1uF		50V
C421	1-164-159-11	CERAMIC	0.1uF		50V
C430	1-162-207-31	CERAMIC	22PF	5%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C431	1-162-207-31	CERAMIC	22PF	5%	50V
C432	1-164-159-11	CERAMIC	0.1uF		50V
C433	1-124-443-00	ELECT	100uF	20%	10V
C434	1-124-443-00	ELECT	100uF	20%	10V
C435	1-164-159-11	CERAMIC	0.1uF		50V
C436	1-124-443-00	ELECT	100uF	20%	10V
C437	1-164-159-11	CERAMIC	0.1uF		50V
C438	1-164-159-11	CERAMIC	0.1uF		50V
C439	1-164-159-11	CERAMIC	0.1uF		50V
C440	1-164-159-11	CERAMIC	0.1uF		50V
C443	1-162-293-31	CERAMIC	820PF	10%	50V
C444	1-162-293-31	CERAMIC	820PF	10%	50V
C447	1-164-159-11	CERAMIC	0.1uF		50V
C448	1-164-159-11	CERAMIC	0.1uF		50V
C456	1-124-903-11	ELECT	1uF	20%	50V
C457	1-124-903-11	ELECT	1uF	20%	50V
C458	1-137-363-91	FILM	680PF	5%	50V
C459	1-137-363-91	FILM	680PF	5%	50V
C462	1-124-907-11	ELECT	10uF	20%	50V
C463	1-124-907-11	ELECT	10uF	20%	50V
C467	1-162-294-31	CERAMIC	0.001uF	10%	50V
C492	1-164-159-11	CERAMIC	0.1uF		50V
C493	1-164-159-11	CERAMIC	0.1uF		50V
C494	1-161-494-00	CERAMIC	0.022uF		25V
C495	1-164-159-11	CERAMIC	0.1uF		50V
C501	1-102-961-00	CERAMIC	27PF	5%	50V
C502	1-102-961-00	CERAMIC	27PF	5%	50V
C503	1-124-477-11	ELECT	47uF	20%	16V
C504	1-161-379-00	CERAMIC	0.01uF	30%	16V
C505	1-161-379-00	CERAMIC	0.01uF	30%	16V
C506	1-161-379-00	CERAMIC	0.01uF	30%	16V
C507	1-161-379-00	CERAMIC	0.01uF	30%	16V
C521	1-124-925-11	ELECT	2.2uF	20%	50V
C522	1-124-463-00	ELECT	0.1uF	20%	50V
C523	1-161-379-00	CERAMIC	0.01uF	30%	16V
C524	1-161-379-00	CERAMIC	0.01uF	30%	16V
C525	1-124-477-11	ELECT	47uF	20%	16V
C1001	1-124-257-00	ELECT	2.2uF	20%	50V
C1002	1-162-282-31	CERAMIC	100PF	10%	50V
C1003	1-162-282-31	CERAMIC	100PF	10%	50V
C1004	1-124-477-11	ELECT	47uF	20%	16V
C1005	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C1006	1-161-374-11	CERAMIC	0.0015uF	20%	16V
C1007	1-124-464-11	ELECT	0.22uF	20%	50V
C1010	1-124-477-11	ELECT	47uF	20%	16V
C1027	1-164-159-11	CERAMIC	0.1uF		50V
C1051	1-124-257-00	ELECT	2.2uF	20%	50V
C1052	1-162-282-31	CERAMIC	100PF	10%	50V

Ref. No.	Part No.	Description			Remark
C1053	1-162-282-31	CERAMIC	100PF	10%	50V
C1054	1-124-477-11	ELECT	47uF	20%	16V
C1055	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C1056	1-161-374-11	CERAMIC	0.0015uF	20%	16V
C1057	1-124-464-11	ELECT	0.22uF	20%	50V
C1060	1-124-477-11	ELECT	47uF	20%	16V
C1077	1-164-159-11	CERAMIC	0.1uF		50V
C1212	1-124-916-11	ELECT	22uF	20%	50V
C1213	1-124-916-11	ELECT	22uF	20%	50V
C1221	1-126-101-11	ELECT	100uF	20%	16V
C1222	1-126-176-11	ELECT	220uF	20%	6.3V
C1223	1-126-176-11	ELECT	220uF	20%	6.3V
C1262	1-124-916-11	ELECT	22uF	20%	50V
C1263	1-124-916-11	ELECT	22uF	20%	50V
C1302	1-102-394-11	CERAMIC	0.01uF X2		250V
C1304	1-126-413-11	ELECT	3300uF	20%	35V
C1305	1-126-413-11	ELECT	3300uF	20%	35V
C1306	1-124-477-11	ELECT	47uF	20%	16V
C1308	1-126-101-11	ELECT	100uF	20%	16V
C1309	1-126-101-11	ELECT	100uF	20%	16V
C1312	1-124-563-11	ELECT	2200uF	20%	25V
C1313	1-126-946-11	ELECT	6800uF	20%	25V
C1314	1-124-122-11	ELECT	100uF	20%	50V
C1315	1-124-907-11	ELECT	10uF	20%	50V
C1316	1-124-910-11	ELECT	47uF	20%	35V
C1319	1-124-463-00	ELECT	0.1uF	20%	50V
C1320	1-124-907-11	ELECT	10uF	20%	50V
C1321	1-161-379-00	CERAMIC	0.01uF	30%	16V
C1322	1-161-379-00	CERAMIC	0.01uF	30%	16V
C1324	1-124-907-11	ELECT	10uF	20%	50V
C1326	1-124-907-11	ELECT	10uF	20%	50V
C1330	1-126-101-11	ELECT	100uF	20%	16V
C1331	1-102-394-11	CERAMIC	0.01uF X2		250V
C1341	1-124-907-11	ELECT	10uF	20%	50V
C1346	1-124-925-11	ELECT	2.2uF	20%	50V
C1351	1-124-122-11	ELECT	100uF	20%	35V
C1352	1-126-105-11	ELECT	1000uF	20%	35V
C1353	1-136-165-00	FILM	0.1uF	5%	50V
C1354	1-136-165-00	FILM	0.1uF	5%	50V
C1361	1-124-122-11	ELECT	100uF	20%	35V

< FILTER >

CF301	1-577-070-81	FILTER, CERAMIC	
CF303	1-577-070-81	FILTER, CERAMIC	
CF304	1-577-075-11	OSCILLATOR, CERAMIC	

< CONNECTOR >

* CN402	1-568-822-11	SOCKET, CONNECTOR 22P	
* CN403	1-568-842-11	SOCKET, CONNECTOR 27P	

Ref. No.	Part No.	Description	Remark
* CN501	1-568-830-11	SOCKET, CONNECTOR 11P	
* CN1201	1-537-327-11	TERMINAL BOARD	
* CN1204	1-564-510-11	PLUG, CONNECTOR 7P	
* CN1205	1-564-509-11	PLUG, CONNECTOR 6P	
* CN1206	1-568-836-11	SOCKET, CONNECTOR 17P	
* CN1211	1-564-507-11	PLUG, CONNECTOR 4P	
* CN1212	1-564-508-11	PLUG, CONNECTOR 5P	
* CN1301	1-564-513-11	PLUG, CONNECTOR 10P	
		< DIODE >	
D1202	8-719-987-63	DIODE 1N4148M	
D1203	8-719-987-63	DIODE 1N4148M	
D1204	8-719-987-63	DIODE 1N4148M	
D1301	8-719-312-09	DIODE RBA-402	
D1302	8-719-200-82	DIODE 11ES2	
D1303	8-719-200-82	DIODE 11ES2	
D1304	8-719-200-82	DIODE 11ES2	
D1305	8-719-200-82	DIODE 11ES2	
D1306	8-719-001-76	DIODE UZL-12M3	
D1307	8-719-200-82	DIODE 11ES2	
D1308	8-719-002-60	DIODE UZL-33L	
D1309	8-719-014-66	DIODE UZP-5.6B	
D1310	8-719-987-63	DIODE 1N4148M	
D1311	8-719-200-82	DIODE 11ES2	
D1312	8-719-200-82	DIODE 11ES2	
D1313	8-719-200-82	DIODE 11ES2	
D1314	8-719-200-82	DIODE 11ES2	
D1315	8-719-987-63	DIODE 1N4148M	
D1316	8-719-987-63	DIODE 1N4148M	
		< FRONTEND >	
FE301	1-465-006-11	FRONT END (FM) (2 GANG)	
FE352	1-239-260-11	ENCAPSULATED COMPONENT	
		< IC >	
IC301	8-759-821-45	IC LA1851N	
IC400	8-759-071-48	IC TA7807S	
IC401	8-759-821-93	IC LA5601	
IC402	8-752-352-93	IC CXD2500BQ	
IC403	8-759-098-28	IC MSM6538-01-RS	
IC404	8-759-155-52	IC PCM-67U-B	
IC406	8-759-634-51	IC M5218AP	
IC407	8-759-634-51	IC M5218AP	
IC501	8-759-820-91	IC LC7218	
IC1001	8-759-634-51	IC M5218AP	
IC1002	8-759-000-48	IC MC14052BCP	
IC1003	8-759-634-51	IC M5218AP	
IC1202	8-759-111-68	IC uPC1237HA	
IC1303	8-759-071-48	IC TA7807S	

Ref. No.	Part No.	Description	Remark
IC1304	8-759-604-95	IC M5F79M07L	
IC1305	8-759-820-13	IC L78MR06	
		< IFT >	
IFT301	1-404-713-11	TRANSFORMER, IF	
		< JACK >	
* J1001	1-580-691-11	JACK, PIN 2P (PHONO)	
		< COIL >	
L301	1-410-686-11	INDUCTOR 1mH	
		< FILTER >	
LPF301	1-235-164-00	FILTER, LOW PASS	
LPF302	1-235-164-00	FILTER, LOW PASS	
		< IC LINK >	
⚠PS401	1-532-675-00	LINK, IC ICP-F38(1.5A)	
		< TRANSISTOR >	
Q303	8-729-230-99	TRANSISTOR 2SC2669-OY	
Q304	8-729-230-99	TRANSISTOR 2SC2669-OY	
Q305	8-729-900-80	TRANSISTOR DTC114ES	
Q306	8-729-900-61	TRANSISTOR DTA114ES	
Q307	8-729-900-80	TRANSISTOR DTC114ES	
Q308	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q309	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q413	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q414	8-729-900-61	TRANSISTOR DTA114ES	
Q415	8-729-900-61	TRANSISTOR DTA114ES	
Q501	8-729-900-80	TRANSISTOR DTC114ES	
Q502	8-729-900-61	TRANSISTOR DTA114ES	
Q521	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q522	8-729-201-84	TRANSISTOR 2SC3112-B	
Q1001	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1051	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1204	8-729-900-63	TRANSISTOR DTA124ES	
Q1301	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q1302	8-729-209-15	TRANSISTOR 2SD2012	
		< RESISTOR >	
R301	1-249-401-11	CARBON 47 5% 1/4W	
R302	1-249-413-11	CARBON 470 5% 1/4W	
R308	1-249-411-11	CARBON 330 5% 1/4W	
R309	1-249-432-11	CARBON 18K 5% 1/4W	
R310	1-249-411-11	CARBON 330 5% 1/4W	

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MAIN

Ref. No.	Part No.	Description				Remark
R311	1-249-434-11	CARBON	27K	5%	1/4W	
R312	1-249-414-11	CARBON	560	5%	1/4W	
R313	1-249-405-11	CARBON	100	5%	1/4W	
⚠R315	1-249-404-00	CARBON	82	5%	1/4W	F
R316	1-249-428-11	CARBON	8.2K	5%	1/4W	
R317	1-249-417-11	CARBON	1K	5%	1/4W	
R318	1-249-435-11	CARBON	33K	5%	1/4W	
R319	1-249-428-11	CARBON	8.2K	5%	1/4W	
R320	1-249-432-11	CARBON	18K	5%	1/4W	
R321	1-249-423-11	CARBON	3.3K	5%	1/4W	
R322	1-249-429-11	CARBON	10K	5%	1/4W	
R323	1-249-418-11	CARBON	1.2K	5%	1/4W	
R324	1-249-429-11	CARBON	10K	5%	1/4W	
R325	1-249-429-11	CARBON	10K	5%	1/4W	
R326	1-249-409-11	CARBON	220	5%	1/4W	
R327	1-249-437-11	CARBON	47K	5%	1/4W	
R328	1-249-437-11	CARBON	47K	5%	1/4W	
R331	1-247-891-00	CARBON	330K	5%	1/4W	
R332	1-247-891-00	CARBON	330K	5%	1/4W	
R333	1-249-421-11	CARBON	2.2K	5%	1/4W	
R334	1-249-421-11	CARBON	2.2K	5%	1/4W	
R335	1-249-420-11	CARBON	1.8K	5%	1/4W	
R336	1-249-420-11	CARBON	1.8K	5%	1/4W	
R337	1-249-426-11	CARBON	5.6K	5%	1/4W	
R338	1-249-426-11	CARBON	5.6K	5%	1/4W	
R361	1-249-437-11	CARBON	47K	5%	1/4W	
R362	1-249-437-11	CARBON	47K	5%	1/4W	
R401	1-249-405-11	CARBON	100	5%	1/4W	
R408	1-249-429-11	CARBON	10K	5%	1/4W	
R409	1-249-423-11	CARBON	3.3K	5%	1/4W	
R410	1-249-423-11	CARBON	3.3K	5%	1/4W	
R411	1-249-441-11	CARBON	100K	5%	1/4W	
R412	1-249-429-11	CARBON	10K	5%	1/4W	
R413	1-249-417-11	CARBON	1K	5%	1/4W	
R414	1-249-417-11	CARBON	1K	5%	1/4W	
R415	1-249-420-11	CARBON	1.8K	5%	1/4W	
R416	1-249-417-11	CARBON	1K	5%	1/4W	
R417	1-249-417-11	CARBON	1K	5%	1/4W	
R418	1-249-417-11	CARBON	1K	5%	1/4W	
R419	1-249-417-11	CARBON	1K	5%	1/4W	
R420	1-249-433-11	CARBON	22K	5%	1/4W	
R421	1-249-413-11	CARBON	470	5%	1/4W	
R422	1-249-413-11	CARBON	470	5%	1/4W	
R423	1-249-417-11	CARBON	1K	5%	1/4W	
R424	1-249-417-11	CARBON	1K	5%	1/4W	
R425	1-249-417-11	CARBON	1K	5%	1/4W	
R435	1-249-420-11	CARBON	1.8K	5%	1/4W	
R436	1-249-420-11	CARBON	1.8K	5%	1/4W	
R437	1-247-836-11	CARBON	1.6K	5%	1/4W	
R438	1-247-836-11	CARBON	1.6K	5%	1/4W	
R441	1-249-441-11	CARBON	100K	5%	1/4W	
R442	1-249-441-11	CARBON	100K	5%	1/4W	
R443	1-249-417-11	CARBON	1K	5%	1/4W	
R444	1-249-417-11	CARBON	1K	5%	1/4W	
R445	1-249-420-11	CARBON	1.8K	5%	1/4W	
R446	1-249-420-11	CARBON	1.8K	5%	1/4W	
R447	1-249-441-11	CARBON	100K	5%	1/4W	
R448	1-249-441-11	CARBON	100K	5%	1/4W	
R451	1-249-419-11	CARBON	1.5K	5%	1/4W	
R452	1-249-419-11	CARBON	1.5K	5%	1/4W	
R460	1-249-441-11	CARBON	100K	5%	1/4W	
R461	1-249-441-11	CARBON	100K	5%	1/4W	
R467	1-249-429-11	CARBON	10K	5%	1/4W	
R501	1-249-417-11	CARBON	1K	5%	1/4W	
R502	1-249-417-11	CARBON	1K	5%	1/4W	
R503	1-249-417-11	CARBON	1K	5%	1/4W	
R504	1-249-417-11	CARBON	1K	5%	1/4W	
R505	1-249-429-11	CARBON	10K	5%	1/4W	
R506	1-249-417-11	CARBON	1K	5%	1/4W	
⚠R510	1-249-401-11	CARBON	47	5%	1/4W	F
R511	1-249-429-11	CARBON	10K	5%	1/4W	
R512	1-249-425-11	CARBON	4.7K	5%	1/4W	
R513	1-249-417-11	CARBON	1K	5%	1/4W	
R514	1-249-429-11	CARBON	10K	5%	1/4W	
R515	1-249-417-11	CARBON	1K	5%	1/4W	
R521	1-249-423-11	CARBON	3.3K	5%	1/4W	
R522	1-249-425-11	CARBON	4.7K	5%	1/4W	
R523	1-249-414-11	CARBON	560	5%	1/4W	
R524	1-249-417-11	CARBON	1K	5%	1/4W	
R525	1-249-410-11	CARBON	270	5%	1/4W	
R526	1-249-421-11	CARBON	2.2K	5%	1/4W	
R527	1-249-425-11	CARBON	4.7K	5%	1/4W	
R528	1-249-425-11	CARBON	4.7K	5%	1/4W	
R529	1-249-405-11	CARBON	100	5%	1/4W	
R530	1-249-405-11	CARBON	100	5%	1/4W	
R1001	1-249-417-11	CARBON	1K	5%	1/4W	
R1002	1-249-437-11	CARBON	47K	5%	1/4W	
R1003	1-249-416-11	CARBON	820	5%	1/4W	
R1004	1-247-897-11	CARBON	560K	5%	1/4W	
R1005	1-249-437-11	CARBON	47K	5%	1/4W	
R1006	1-249-409-11	CARBON	220	5%	1/4W	
R1007	1-249-441-11	CARBON	100K	5%	1/4W	
R1010	1-249-431-11	CARBON	15K	5%	1/4W	
R1016	1-249-437-11	CARBON	47K	5%	1/4W	
R1017	1-249-437-11	CARBON	47K	5%	1/4W	
R1021	1-249-434-11	CARBON	27K	5%	1/4W	
R1023	1-249-434-11	CARBON	27K	5%	1/4W	

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Ref. No.	Part No.	Description			Remark
R1034	1-249-425-11	CARBON	4.7K	5%	1/4W
R1035	1-249-437-11	CARBON	47K	5%	1/4W
R1036	1-249-425-11	CARBON	4.7K	5%	1/4W
R1051	1-249-417-11	CARBON	1K	5%	1/4W
R1052	1-249-437-11	CARBON	47K	5%	1/4W
R1053	1-249-416-11	CARBON	820	5%	1/4W
R1054	1-247-897-11	CARBON	560K	5%	1/4W
R1055	1-249-437-11	CARBON	47K	5%	1/4W
R1056	1-249-409-11	CARBON	220	5%	1/4W
R1057	1-249-441-11	CARBON	100K	5%	1/4W
R1060	1-249-431-11	CARBON	15K	5%	1/4W
R1071	1-249-434-11	CARBON	27K	5%	1/4W
R1073	1-249-434-11	CARBON	27K	5%	1/4W
R1222	1-249-415-11	CARBON	680	5%	1/4W
R1223	1-249-415-11	CARBON	680	5%	1/4W
⚠R1226	1-215-889-00	METAL OXIDE	330	5%	2W F
R1233	1-249-425-11	CARBON	4.7K	5%	1/4W
R1234	1-249-425-11	CARBON	4.7K	5%	1/4W
R1235	1-249-435-11	CARBON	33K	5%	1/4W
R1236	1-249-441-11	CARBON	100K	5%	1/4W
R1237	1-249-429-11	CARBON	10K	5%	1/4W
R1240	1-249-438-11	CARBON	56K	5%	1/4W
R1272	1-249-415-11	CARBON	680	5%	1/4W
R1273	1-249-415-11	CARBON	680	5%	1/4W
R1290	1-249-437-11	CARBON	47K	5%	1/4W
R1301	1-249-429-11	CARBON	10K	5%	1/4W
R1302	1-249-429-11	CARBON	10K	5%	1/4W
R1303	1-249-421-11	CARBON	2.2K	5%	1/4W
R1304	1-249-425-11	CARBON	4.7K	5%	1/4W
R1321	1-249-417-11	CARBON	1K	5%	1/4W
R1322	1-249-429-11	CARBON	10K	5%	1/4W
R1345	1-249-421-11	CARBON	2.2K	5%	1/4W
		< VARIABLE RESISTOR >			
RV301	1-238-601-11	RES, ADJ, CARBON 22K			
RV302	1-238-601-11	RES, ADJ, CARBON 22K			
		< RELAY >			
RY1201	1-515-533-11	RELAY			
		< TRANSFORMER >			
T301	1-404-807-11	TRANSFORMER, DISCRIMINATOR			
		< TERMINAL >			
* TM301	1-537-264-11	TERMINAL BOARD (ANTENNA)			

Ref. No.	Part No.	Description			Remark
		< TEST PIN >			
* TP1	1-560-060-00	PIN, CONNECTOR 2P			
		< VIBRATOR >			
X401	1-567-908-11	VIBRATOR, CRYSTAL (16MHz)			
		< VIBRATOR >			
XT501	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)			
**********					
*	A-4356-802-A	PANEL BOARD, COMPLETE			
		**********			
*	4-942-301-01	HOLDER, FL TUBE			
		< CAPACITOR >			
C603	1-136-169-00	FILM	0.22uF	5%	50V
C604	1-164-159-11	CERAMIC	0.1uF		50V
C605	1-104-905-11	DOUBLE LAYERS	0.22F		5.5V
C606	1-164-159-11	CERAMIC	0.1uF		50V
C607	1-124-261-00	ELECT	10uF	20%	50V
C608	1-161-379-00	CERAMIC	0.01uF	30%	16V
C609	1-161-379-00	CERAMIC	0.01uF	30%	16V
C611	1-126-163-11	ELECT	4.7uF	20%	50V
C650	1-126-301-11	ELECT	1uF	20%	50V
C651	1-126-301-11	ELECT	1uF	20%	50V
C1102	1-124-589-11	ELECT	47uF	20%	16V
C1103	1-162-282-31	CERAMIC	100PF	10%	50V
C1104	1-124-257-00	ELECT	2.2uF	20%	50V
C1105	1-124-464-11	ELECT	0.22uF	20%	50V
C1106	1-136-161-00	FILM	0.047uF	5%	50V
C1107	1-136-155-00	FILM	0.015uF	5%	50V
C1108	1-136-155-00	FILM	0.015uF	5%	50V
C1109	1-137-437-11	FILM	0.0056uF	5%	50V
C1110	1-161-327-00	CERAMIC	0.0033uF	20%	16V
C1111	1-136-155-00	FILM	0.015uF	5%	50V
C1112	1-136-157-00	FILM	0.022uF	5%	50V
C1113	1-136-153-00	FILM	0.01uF	5%	50V
C1114	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C1115	1-124-257-00	ELECT	2.2uF	20%	50V
C1116	1-124-257-00	ELECT	2.2uF	20%	50V
C1121	1-161-379-00	CERAMIC	0.01uF	30%	16V
C1123	1-162-286-31	CERAMIC	220PF	10%	50V
C1131	1-162-215-31	CERAMIC	47PF	5%	50V
C1132	1-162-215-31	CERAMIC	47PF	5%	50V
C1152	1-124-589-11	ELECT	47uF	20%	16V
C1153	1-162-282-31	CERAMIC	100PF	10%	50V
C1154	1-124-257-00	ELECT	2.2uF	20%	50V

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PANEL

Ref. No.	Part No.	Description			Remark
C1155	1-124-464-11	ELECT	0.22uF	20%	50V
C1156	1-136-161-00	FILM	0.047uF	5%	50V
C1157	1-136-155-00	FILM	0.015uF	5%	50V
C1158	1-136-155-00	FILM	0.015uF	5%	50V
C1159	1-137-437-11	FILM	0.0056uF	5%	50V
C1160	1-161-327-00	CERAMIC	0.0033uF	20%	16V
C1161	1-136-155-00	FILM	0.015uF	5%	50V
C1162	1-136-157-00	FILM	0.022uF	5%	50V
C1163	1-136-153-00	FILM	0.01uF	5%	50V
C1164	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C1165	1-124-257-00	ELECT	2.2uF	20%	50V
C1166	1-124-257-00	ELECT	2.2uF	20%	50V
C1173	1-162-286-31	CERAMIC	220PF	10%	50V
C1181	1-162-215-31	CERAMIC	47PF	5%	50V
C1182	1-162-215-31	CERAMIC	47PF	5%	50V
C1197	1-161-379-00	CERAMIC	0.01uF	30%	16V
C1198	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
* CN601	1-568-830-11	SOCKET, CONNECTOR 11P			
* CN1101	1-568-836-11	SOCKET, CONNECTOR 17P			
		< DIODE >			
D601	8-719-987-63	DIODE	1N4148M		
D602	8-719-010-26	DIODE	UZ-3.9BSB		
D603	8-719-987-63	DIODE	1N4148M		
D604	8-719-987-63	DIODE	1N4148M		
D611	8-719-987-63	DIODE	1N4148M		
D612	8-719-987-63	DIODE	1N4148M		
D613	8-719-987-63	DIODE	1N4148M		
D614	8-719-987-63	DIODE	1N4148M		
D616	8-719-987-63	DIODE	1N4148M		
D622	8-719-987-63	DIODE	1N4148M		
D623	8-719-987-63	DIODE	1N4148M		
D625	8-719-987-63	DIODE	1N4148M		
D627	8-719-987-63	DIODE	1N4148M		
D632	8-719-987-63	DIODE	1N4148M		
D635	8-719-987-63	DIODE	1N4148M		
D641	8-719-200-82	DIODE	11ES2		
D1101	8-719-987-63	DIODE	1N4148M		
D1131	8-719-301-37	LED	SEL2210S-CD	(CD)	
D1132	8-719-301-37	LED	SEL2210S-CD	(PHONO)	
D1133	8-719-301-37	LED	SEL2210S-CD	(TUNER)	
D1134	8-719-301-37	LED	SEL2210S-CD	(TAPE)	
D1145	8-719-301-37	LED	SEL2210S-CD	(VOLUME)	
D1151	8-719-987-63	DIODE	1N4148M		
D1152	8-719-987-63	DIODE	1N4148M		

Ref. No.	Part No.	Description			Remark
		< FILTER >			
FL601	1-519-711-21	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC601	8-759-096-99	IC	uPD75212ACW-A47		
IC602	8-749-923-64	IC	NJH32H400		
IC1101	8-759-634-51	IC	M5218AP		
IC1102	8-759-634-51	IC	M5218AP		
IC1103	8-759-820-62	IC	LB1639		
IC1104	8-759-916-12	IC	SN74HC00AN		
		< COIL >			
L601	1-410-521-11	INDUCTOR	100uH		
		< TRANSISTOR >			
Q601	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q602	8-729-900-80	TRANSISTOR	DTC114ES		
Q1101	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q1102	8-729-141-26	TRANSISTOR	2SC3622A-LK		
Q1136	8-729-900-36	TRANSISTOR	DTC124ES		
Q1138	8-729-900-36	TRANSISTOR	DTC124ES		
Q1139	8-729-900-36	TRANSISTOR	DTC124ES		
Q1141	8-729-900-63	TRANSISTOR	DTA124ES		
Q1143	8-729-900-80	TRANSISTOR	DTC114ES		
Q1144	8-729-900-80	TRANSISTOR	DTC114ES		
Q1145	8-729-900-61	TRANSISTOR	DTA114ES		
Q1147	8-729-900-36	TRANSISTOR	DTC124ES		
Q1151	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q1152	8-729-141-26	TRANSISTOR	2SC3622A-LK		
		< RESISTOR >			
R601	1-249-429-11	CARBON	10K	5%	1/4W
R602	1-249-429-11	CARBON	10K	5%	1/4W
R603	1-249-423-11	CARBON	3.3K	5%	1/4W
R605	1-249-433-11	CARBON	22K	5%	1/4W
R606	1-249-433-11	CARBON	22K	5%	1/4W
R607	1-249-439-11	CARBON	68K	5%	1/4W
R608	1-249-417-11	CARBON	1K	5%	1/4W
R609	1-249-405-11	CARBON	100	5%	1/4W
R610	1-249-429-11	CARBON	10K	5%	1/4W
R611	1-249-437-11	CARBON	47K	5%	1/4W
R612	1-249-417-11	CARBON	1K	5%	1/4W
R613	1-249-441-11	CARBON	100K	5%	1/4W
R621	1-249-433-11	CARBON	22K	5%	1/4W
R622	1-249-433-11	CARBON	22K	5%	1/4W
R623	1-249-433-11	CARBON	22K	5%	1/4W
R624	1-249-433-11	CARBON	22K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R641	1-249-417-11	CARBON	1K	5%	1/4W
R1102	1-249-426-11	CARBON	5.6K	5%	1/4W
R1103	1-249-431-11	CARBON	15K	5%	1/4W
R1104	1-249-429-11	CARBON	10K	5%	1/4W
R1105	1-249-433-11	CARBON	22K	5%	1/4W
R1106	1-249-424-11	CARBON	3.9K	5%	1/4W
R1107	1-249-441-11	CARBON	100K	5%	1/4W
R1108	1-249-427-11	CARBON	6.8K	5%	1/4W
R1109	1-249-412-11	CARBON	390	5%	1/4W
R1110	1-249-431-11	CARBON	15K	5%	1/4W
R1111	1-249-439-11	CARBON	68K	5%	1/4W
R1112	1-249-433-11	CARBON	22K	5%	1/4W
R1113	1-249-431-11	CARBON	15K	5%	1/4W
R1114	1-249-429-11	CARBON	10K	5%	1/4W
R1115	1-249-429-11	CARBON	10K	5%	1/4W
R1116	1-247-852-11	CARBON	7.5K	5%	1/4W
R1117	1-247-852-11	CARBON	7.5K	5%	1/4W
R1118	1-249-425-11	CARBON	4.7K	5%	1/4W
R1119	1-249-425-11	CARBON	4.7K	5%	1/4W
R1120	1-249-423-11	CARBON	3.3K	5%	1/4W
R1121	1-249-423-11	CARBON	3.3K	5%	1/4W
R1122	1-247-887-00	CARBON	220K	5%	1/4W
R1123	1-249-421-11	CARBON	2.2K	5%	1/4W
R1124	1-249-425-11	CARBON	4.7K	5%	1/4W
R1125	1-249-433-11	CARBON	22K	5%	1/4W
R1132	1-249-412-11	CARBON	390	5%	1/4W
R1133	1-249-412-11	CARBON	390	5%	1/4W
R1135	1-249-433-11	CARBON	22K	5%	1/4W
R1145	1-249-412-11	CARBON	390	5%	1/4W
R1152	1-249-426-11	CARBON	5.6K	5%	1/4W
R1154	1-249-429-11	CARBON	10K	5%	1/4W
R1155	1-249-433-11	CARBON	22K	5%	1/4W
R1156	1-249-424-11	CARBON	3.9K	5%	1/4W
R1157	1-249-441-11	CARBON	100K	5%	1/4W
R1158	1-249-427-11	CARBON	6.8K	5%	1/4W
R1159	1-249-412-11	CARBON	390	5%	1/4W
R1160	1-249-431-11	CARBON	15K	5%	1/4W
R1161	1-249-439-11	CARBON	68K	5%	1/4W
R1162	1-249-433-11	CARBON	22K	5%	1/4W
R1163	1-249-431-11	CARBON	15K	5%	1/4W
R1164	1-249-429-11	CARBON	10K	5%	1/4W
R1165	1-249-429-11	CARBON	10K	5%	1/4W
R1166	1-247-852-11	CARBON	7.5K	5%	1/4W
R1167	1-247-852-11	CARBON	7.5K	5%	1/4W
R1168	1-249-425-11	CARBON	4.7K	5%	1/4W
R1169	1-249-425-11	CARBON	4.7K	5%	1/4W
R1170	1-249-423-11	CARBON	3.3K	5%	1/4W
R1171	1-249-423-11	CARBON	3.3K	5%	1/4W
R1172	1-247-887-00	CARBON	220K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R1173	1-249-421-11	CARBON	2.2K	5%	1/4W
R1174	1-249-425-11	CARBON	4.7K	5%	1/4W

< VARIABLE RESISTOR >

RV1101	1-223-251-11	RES, VAR, CARBON 100K/100K	(SURROUND)
RV1102	1-223-251-11	RES, VAR, CARBON 100K/100K	(DBFB)
RV1103	1-241-351-11	RES, VAR, SLIDE 100K/100K	(100Hz)
RV1104	1-241-351-11	RES, VAR, SLIDE 100K/100K	(330Hz)
RV1105	1-241-351-11	RES, VAR, SLIDE 100K/100K	(1KHz)
RV1106	1-241-351-11	RES, VAR, SLIDE 100K/100K	(3.3KHz)
RV1107	1-241-351-11	RES, VAR, SLIDE 100K/100K	(10KHz)

< SWITCH >

S601	1-554-303-21	SWITCH, TACTILE (1)
S602	1-554-303-21	SWITCH, TACTILE (2)
S603	1-554-303-21	SWITCH, TACTILE (3)
S604	1-554-303-21	SWITCH, TACTILE (4)
S605	1-554-303-21	SWITCH, TACTILE (5)
S606	1-554-303-21	SWITCH, TACTILE (6)
S607	1-554-303-21	SWITCH, TACTILE (7)
S608	1-554-303-21	SWITCH, TACTILE (8)
S609	1-554-303-21	SWITCH, TACTILE (9)
S610	1-554-303-21	SWITCH, TACTILE (0)
S611	1-554-303-21	SWITCH, TACTILE (DUAL MODE TUNING +)
S612	1-554-303-21	SWITCH, TACTILE (DUAL MODE TUNING -)
S613	1-554-303-21	SWITCH, TACTILE (SHIFT)
S614	1-554-303-21	SWITCH, TACTILE (BAND SELECT)
S615	1-554-303-21	SWITCH, TACTILE (ST/MUTE)
S616	1-554-303-21	SWITCH, TACTILE (MEMORY)
S621	1-554-303-21	SWITCH, TACTILE (TAPE)
S622	1-554-303-21	SWITCH, TACTILE (CD)
S623	1-554-303-21	SWITCH, TACTILE (TUNER)
S624	1-554-303-21	SWITCH, TACTILE (PHONO)

< VIBRATOR >

X601	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)

****

* A-4356-804-A POWER AMPLIFIER BOARD, COMPLETE

****

< CAPACITOR >

C1201	1-124-925-11	ELECT	2.2uF	20% 50V
C1202	1-162-286-31	CERAMIC	220PF	10% 50V
C1203	1-162-286-31	CERAMIC	220PF	10% 50V
C1204	1-124-910-11	ELECT	47uF	20% 50V
C1205	1-124-910-11	ELECT	47uF	20% 50V
C1206	1-124-122-11	ELECT	100uF	20% 50V
C1207	1-136-165-00	FILM	0.1uF	5% 50V

POWER AMPLIFIER | POWER

Ref. No.	Part No.	Description				Remark
C1208	1-124-916-11	ELECT	22uF	20%	50V	
C1209	1-136-165-00	FILM	0.1uF	5%	50V	
C1210	1-136-163-00	FILM	0.068uF	5%	50V	
C1211	1-136-163-00	FILM	0.068uF	5%	50V	
C1220	1-124-917-11	ELECT	33uF	20%	50V	
C1251	1-124-925-11	ELECT	2.2uF	20%	50V	
C1252	1-162-286-31	CERAMIC	220PF	10%	50V	
C1253	1-162-286-31	CERAMIC	220PF	10%	50V	
C1254	1-124-910-11	ELECT	47uF	20%	50V	
C1255	1-124-910-11	ELECT	47uF	20%	50V	
C1256	1-124-122-11	ELECT	100uF	20%	50V	
C1257	1-136-165-00	FILM	0.1uF	5%	50V	
C1260	1-136-163-00	FILM	0.068uF	5%	50V	
C1261	1-136-163-00	FILM	0.068uF	5%	50V	
		< CONNECTOR >				
* CN1203	1-564-518-11	PLUG, CONNECTOR 3P				
		< DIODE >				
D1201	8-719-987-63	DIODE	1N4148M			
D1251	8-719-987-63	DIODE	1N4148M			
		< IC >				
IC1201	8-749-920-19	IC	STK-4122MK2			
		< COIL >				
L1201	1-420-872-00	COIL, AIR CORE				
L1251	1-420-872-00	COIL, AIR CORE				
		< TRANSISTOR >				
Q1201	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
Q1202	8-729-900-80	TRANSISTOR	DTC114ES			
Q1203	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q1251	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
		< RESISTOR >				
R1201	1-249-417-11	CARBON	1K	5%	1/4W	
R1202	1-249-438-11	CARBON	56K	5%	1/4W	
R1203	1-249-414-11	CARBON	560	5%	1/4W	
R1204	1-249-438-11	CARBON	56K	5%	1/4W	
R1205	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1206	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1207	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1208	1-249-425-11	CARBON	4.7K	5%	1/4W	
⚠R1209	1-212-881-11	FUSIBLE	100	5%	1/4W	F
⚠R1210	1-217-151-00	RES, METAL PLATE	0.22	10%	2W	F
R1211	1-249-417-11	CARBON	1K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R1212	1-249-431-11	CARBON	15K	5%	1/4W	
R1213	1-249-441-11	CARBON	100K	5%	1/4W	
R1214	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1215	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1216	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1217	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1218	1-249-397-11	CARBON	22	5%	1/4W	
R1219	1-249-397-11	CARBON	22	5%	1/4W	
R1220	1-249-397-11	CARBON	22	5%	1/4W	
R1221	1-249-397-11	CARBON	22	5%	1/4W	
R1227	1-249-429-11	CARBON	10K	5%	1/4W	
R1228	1-247-881-00	CARBON	120K	5%	1/4W	
R1229	1-249-437-11	CARBON	47K	5%	1/4W	
R1230	1-249-439-11	CARBON	68K	5%	1/4W	
R1231	1-249-417-11	CARBON	1K	5%	1/4W	
R1232	1-249-434-11	CARBON	27K	5%	1/4W	
R1238	1-249-433-11	CARBON	22K	5%	1/4W	
R1239	1-249-426-11	CARBON	5.6K	5%	1/4W	
⚠R1241	1-249-389-11	CARBON	4.7	5%	1/4W	F
R1251	1-249-417-11	CARBON	1K	5%	1/4W	
R1252	1-249-438-11	CARBON	56K	5%	1/4W	
R1253	1-249-414-11	CARBON	560	5%	1/4W	
R1254	1-249-438-11	CARBON	56K	5%	1/4W	
R1255	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1256	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1257	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1258	1-249-425-11	CARBON	4.7K	5%	1/4W	
⚠R1259	1-212-881-11	FUSIBLE	100	5%	1/4W	F
⚠R1260	1-217-151-00	RES, METAL PLATE	0.22	10%	2W	F
R1261	1-249-417-11	CARBON	1K	5%	1/4W	
R1262	1-249-431-11	CARBON	15K	5%	1/4W	
R1263	1-249-441-11	CARBON	100K	5%	1/4W	
R1268	1-249-397-11	CARBON	22	5%	1/4W	
R1269	1-249-397-11	CARBON	22	5%	1/4W	
R1270	1-249-397-11	CARBON	22	5%	1/4W	
R1271	1-249-397-11	CARBON	22	5%	1/4W	

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*	1-645-905-13	POWER BOARD		
		**********		
	1-533-217-31	HOLDER, FUSE		
		< CAPACITOR >		
⚠C1301	1-161-744-00	CERAMIC	0.01uF	400V
C1348	1-164-159-11	CERAMIC	0.1uF	50V
		< CONNECTOR >		
* CN1350	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P		

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
* CN1351	1-564-321-00	PIN, CONNECTOR 2P			
		< RESISTOR >			
⚠R1391	1-202-725-00	RES SOLID	3.3M	10% 1/2W	
		< TRANSFORMER >			
⚠T1301	1-450-817-11	TRANSFORMER, POWER (US)			
⚠T1301	1-450-818-11	TRANSFORMER, POWER (Canadian)			
		< FUSE >			
⚠F1301	1-576-107-11	FUSE (T3.15A)			
⚠F1302	1-576-107-11	FUSE (T3.15A)			
⚠F1303	1-576-108-11	FUSE (T4.0A)			
⚠F1304	1-576-108-11	FUSE (T4.0A)			
**********					
*	1-645-904-11	SW BOARD			
		********			
		< CONNECTOR >			
* CN421	1-568-944-11	PIN, CONNECTOR 6P			
		< SWITCH >			
S401	1-692-354-11	SWITCH, PUSH (3 KEY) (TAPE SELECT/DUBBING SPEED/DOLBY NR)			
**********					
*	A-4356-500-A	TC MAIN BOARD, COMPLETE			
		**********			
*	4-942-204-01	PLATE, GROUND			
		< CAPACITOR >			
C100	1-162-282-31	CERAMIC	100PF	10%	50V
C101	1-162-290-31	CERAMIC	470PF	10%	50V
C102	1-136-157-00	FILM	0.022uF	5%	50V
C103	1-126-320-11	ELECT, NONPOLAR	10uF	20%	16V
C110	1-162-282-31	CERAMIC	100PF	10%	50V
C111	1-162-289-31	CERAMIC	390PF	10%	50V
C112	1-136-157-00	FILM	0.022uF	5%	50V
C113	1-126-320-11	ELECT, NONPOLAR	10uF	20%	16V
C121	1-137-368-11	FILM	0.0047uF	5%	50V
C122	1-124-903-11	ELECT	1uF	20%	50V
C123	1-126-791-11	ELECT	10uF	20%	35V
C124	1-136-165-00	FILM	0.1uF	5%	50V
C125	1-126-791-11	ELECT	10uF	20%	35V
C126	1-124-903-11	ELECT	1uF	20%	50V
C127	1-124-902-00	ELECT	0.47uF	20%	50V
C128	1-126-791-11	ELECT	10uF	20%	35V

Ref. No.	Part No.	Description			Remark
C131	1-161-375-00	CERAMIC	0.0022uF	20%	16V
C132	1-162-291-31	CERAMIC	560PF	10%	50V
C151	1-102-525-11	CERAMIC	68PF	5%	50V
C152	1-102-961-00	CERAMIC	27PF	5%	50V
C153	1-101-890-00	CERAMIC	75PF	5%	50V
C154	1-162-288-31	CERAMIC	330PF	10%	50V
C200	1-162-282-31	CERAMIC	100PF	10%	50V
C201	1-162-290-31	CERAMIC	470PF	10%	50V
C202	1-136-157-00	FILM	0.022uF	5%	50V
C203	1-126-320-11	ELECT, NONPOLAR	10uF	20%	16V
C210	1-162-282-31	CERAMIC	100PF	10%	50V
C211	1-162-289-31	CERAMIC	390PF	10%	50V
C212	1-136-157-00	FILM	0.022uF	5%	50V
C213	1-126-320-11	ELECT, NONPOLAR	10uF	20%	16V
C221	1-137-368-11	FILM	0.0047uF	5%	50V
C222	1-124-903-11	ELECT	1uF	20%	50V
C223	1-126-791-11	ELECT	10uF	20%	35V
C224	1-136-165-00	FILM	0.1uF	5%	50V
C225	1-126-791-11	ELECT	10uF	20%	35V
C226	1-124-903-11	ELECT	1uF	20%	50V
C227	1-124-902-00	ELECT	0.47uF	20%	50V
C228	1-126-791-11	ELECT	10uF	20%	35V
C231	1-161-375-00	CERAMIC	0.0022uF	20%	16V
C232	1-162-291-31	CERAMIC	560PF	10%	50V
C251	1-102-525-11	CERAMIC	68PF	5%	50V
C252	1-102-961-00	CERAMIC	27PF	5%	50V
C253	1-101-890-00	CERAMIC	75PF	5%	50V
C254	1-162-288-31	CERAMIC	330PF	10%	50V
C301	1-164-159-11	CERAMIC	0.1uF		50V
C302	1-164-159-11	CERAMIC	0.1uF		50V
C303	1-126-933-11	ELECT	100uF	20%	16V
C304	1-126-933-11	ELECT	100uF	20%	16V
C305	1-126-933-11	ELECT	100uF	20%	16V
C306	1-126-933-11	ELECT	100uF	20%	16V
C307	1-126-933-11	ELECT	100uF	20%	16V
C308	1-126-933-11	ELECT	100uF	20%	16V
C309	1-126-791-11	ELECT	10uF	20%	35V
C310	1-126-791-11	ELECT	10uF	20%	35V
C312	1-164-159-11	CERAMIC	0.1uF		50V
C313	1-164-159-11	CERAMIC	0.1uF		50V
C315	1-124-927-11	ELECT	4.7uF	20%	50V
C341	1-126-786-11	ELECT	47uF	20%	16V
C351	1-124-120-11	ELECT	220uF	20%	16V
C352	1-136-165-00	FILM	0.1uF	5%	50V
C353	1-137-436-11	FILM	0.0039uF	5%	50V
C354	1-137-436-11	FILM	0.0039uF	5%	50V
C355	1-161-329-00	CERAMIC	0.0068uF	30%	16V
C356	1-137-438-11	FILM	0.0082uF	5%	50V
C357	1-124-925-11	ELECT	2.2uF	20%	50V

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TC MAIN

Ref. No.	Part No.	Description			Remark
C358	1-137-438-11	FILM	0.0082uF	5%	50V
C371	1-126-768-11	ELECT	2200uF	20%	16V
C372	1-164-159-11	CERAMIC	0.1uF		50V
C373	1-124-927-11	ELECT	4.7uF	20%	50V
C374	1-124-925-11	ELECT	2.2uF	20%	50V
C375	1-124-903-11	ELECT	1uF	20%	50V
C376	1-126-791-11	ELECT	10uF	20%	35V
C377	1-124-925-11	ELECT	2.2uF	20%	50V
		< CONNECTOR >			
* CN301	1-564-507-11	PLUG, CONNECTOR 4P			
* CN302	1-564-508-11	PLUG, CONNECTOR 5P			
* CN304	1-564-505-11	PLUG, CONNECTOR 2P			
* CN305	1-564-506-11	PLUG, CONNECTOR 3P			
* CN306	1-564-509-11	PLUG, CONNECTOR 6P			
* CN307	1-564-505-11	PLUG, CONNECTOR 2P			
* CN308	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
* CN311	1-560-060-00	PIN, CONNECTOR 2P			
* CN312	1-560-061-00	PIN, CONNECTOR 3P			
		< DIODE >			
D301	8-719-200-82	DIODE	11ES2		
D302	8-719-200-82	DIODE	11ES2		
D316	8-719-987-63	DIODE	1N4148M		
D341	8-719-987-63	DIODE	1N4148M		
D371	8-719-987-63	DIODE	1N4148M		
D372	8-719-987-63	DIODE	1N4148M		
D374	8-719-987-63	DIODE	1N4148M		
D375	8-719-987-63	DIODE	1N4148M		
D376	8-719-987-63	DIODE	1N4148M		
D384	8-719-987-63	DIODE	1N4148M		
D385	8-719-987-63	DIODE	1N4148M		
		< IC >			
IC101	8-759-111-44	IC	uPC4570C-1		
IC102	8-759-111-44	IC	uPC4570C-1		
IC103	8-759-098-73	IC	HA12172NT		
IC301	8-759-071-48	IC	TA7807S		
IC302	8-759-604-95	IC	M5F79M07L		
IC304	8-759-240-81	IC	TC4081BP		
		< COIL >			
L151	1-410-780-11	INDUCTOR	27mH		
L251	1-410-780-11	INDUCTOR	27mH		
L352	1-414-223-31	INDUCTOR	470uH		
		< TRANSISTOR >			
Q101	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q201	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q352	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q353	8-729-194-57	TRANSISTOR	2SC945-P		
Q354	8-729-194-57	TRANSISTOR	2SC945-P		
Q355	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q371	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q372	8-729-900-89	TRANSISTOR	DTC144ES		
Q373	8-729-900-65	TRANSISTOR	DTA144ES		
Q374	8-729-900-89	TRANSISTOR	DTC144ES		
Q375	8-729-900-89	TRANSISTOR	DTC144ES		
Q376	8-729-900-89	TRANSISTOR	DTC144ES		
Q377	8-729-900-65	TRANSISTOR	DTA144ES		
Q378	8-729-900-89	TRANSISTOR	DTC144ES		
Q379	8-729-900-89	TRANSISTOR	DTC144ES		
Q380	8-729-900-89	TRANSISTOR	DTC144ES		
		< RESISTOR >			
R101	1-247-889-00	CARBON	270K	5%	1/4W
R102	1-249-404-00	CARBON	82	5%	1/4W
R103	1-247-882-11	CARBON	130K	5%	1/4W
R104	1-247-850-11	CARBON	6.2K	5%	1/4W
R111	1-247-889-00	CARBON	270K	5%	1/4W
R112	1-249-404-00	CARBON	82	5%	1/4W
R113	1-247-882-11	CARBON	130K	5%	1/4W
R114	1-247-850-11	CARBON	6.2K	5%	1/4W
R120	1-249-425-11	CARBON	4.7K	5%	1/4W
R121	1-249-429-11	CARBON	10K	5%	1/4W
R122	1-249-431-11	CARBON	15K	5%	1/4W
R123	1-249-429-11	CARBON	10K	5%	1/4W
R124	1-249-421-11	CARBON	2.2K	5%	1/4W
R125	1-249-428-11	CARBON	8.2K	5%	1/4W
R126	1-247-840-00	CARBON	2.4K	5%	1/4W
R127	1-249-433-11	CARBON	22K	5%	1/4W
R128	1-249-417-11	CARBON	1K	5%	1/4W
R151	1-249-430-11	CARBON	12K	5%	1/4W
R201	1-247-889-00	CARBON	270K	5%	1/4W
R202	1-249-404-00	CARBON	82	5%	1/4W
R203	1-247-882-11	CARBON	130K	5%	1/4W
R204	1-247-850-11	CARBON	6.2K	5%	1/4W
R211	1-247-889-00	CARBON	270K	5%	1/4W
R212	1-249-404-00	CARBON	82	5%	1/4W
R213	1-247-882-11	CARBON	130K	5%	1/4W
R214	1-247-850-11	CARBON	6.2K	5%	1/4W
R220	1-249-425-11	CARBON	4.7K	5%	1/4W
R221	1-249-429-11	CARBON	10K	5%	1/4W
R222	1-249-431-11	CARBON	15K	5%	1/4W
R223	1-249-429-11	CARBON	10K	5%	1/4W
R224	1-249-421-11	CARBON	2.2K	5%	1/4W

Ref. No.	Part No.	Description				Remark
R225	1-249-428-11	CARBON	8.2K	5%	1/4W	
R226	1-247-840-00	CARBON	2.4K	5%	1/4W	
R227	1-249-433-11	CARBON	22K	5%	1/4W	
R228	1-249-417-11	CARBON	1K	5%	1/4W	
R251	1-249-430-11	CARBON	12K	5%	1/4W	
R300	1-249-405-11	CARBON	100	5%	1/4W	
R303	1-249-413-11	CARBON	470	5%	1/4W	
R304	1-249-413-11	CARBON	470	5%	1/4W	
R305	1-249-413-11	CARBON	470	5%	1/4W	
R306	1-249-413-11	CARBON	470	5%	1/4W	
R311	1-215-451-00	METAL	18K	1%	1/4W	
R312	1-249-440-11	CARBON	82K	5%	1/4W	
R313	1-247-862-11	CARBON	20K	5%	1/4W	
R317	1-249-433-11	CARBON	22K	5%	1/4W	
R318	1-249-436-11	CARBON	39K	5%	1/4W	
R319	1-249-436-11	CARBON	39K	5%	1/4W	
R321	1-247-864-11	CARBON	24K	5%	1/4W	
R322	1-249-436-11	CARBON	39K	5%	1/4W	
R352	1-249-429-11	CARBON	10K	5%	1/4W	
R353	1-249-434-11	CARBON	27K	5%	1/4W	
R354	1-249-434-11	CARBON	27K	5%	1/4W	
R355	1-249-393-11	CARBON	10	5%	1/4W	
R371	1-249-426-11	CARBON	5.6K	5%	1/4W	
R372	1-249-442-11	CARBON	510	5%	1/4W	
R373	1-249-435-11	CARBON	33K	5%	1/4W	
R375	1-249-435-11	CARBON	33K	5%	1/4W	
R376	1-249-425-11	CARBON	4.7K	5%	1/4W	
R377	1-249-433-11	CARBON	22K	5%	1/4W	
R378	1-249-433-11	CARBON	22K	5%	1/4W	
R379	1-249-438-11	CARBON	56K	5%	1/4W	
R381	1-249-437-11	CARBON	47K	5%	1/4W	
R382	1-249-437-11	CARBON	47K	5%	1/4W	
R384	1-249-429-11	CARBON	10K	5%	1/4W	
R385	1-249-421-11	CARBON	2.2K	5%	1/4W	
R386	1-249-421-11	CARBON	2.2K	5%	1/4W	
R387	1-249-433-11	CARBON	22K	5%	1/4W	
R388	1-249-425-11	CARBON	4.7K	5%	1/4W	
R391	1-249-429-11	CARBON	10K	5%	1/4W	
R392	1-247-887-00	CARBON	220K	5%	1/4W	
R393	1-249-441-11	CARBON	100K	5%	1/4W	
R394	1-249-436-11	CARBON	39K	5%	1/4W	
⚠R395	1-216-357-00	METAL OXIDE	4.7	5%	1W	F
R400	1-249-389-11	CARBON	4.7	5%	1/4W	
		< VARIABLE RESISTOR >				
RV101	1-230-496-11	RES, ADJ, CARBON 10K				
RV102	1-230-496-11	RES, ADJ, CARBON 10K				
RV103	1-230-496-11	RES, ADJ, CARBON 10K				
RV151	1-230-499-11	RES, ADJ, CARBON 100K				
RV201	1-230-496-11	RES, ADJ, CARBON 10K				
RV202	1-230-496-11	RES, ADJ, CARBON 10K				
RV203	1-230-496-11	RES, ADJ, CARBON 10K				
RV251	1-230-499-11	RES, ADJ, CARBON 100K				
RV371	1-230-495-11	RES, ADJ, CARBON 2.2K				
RV372	1-230-495-11	RES, ADJ, CARBON 2.2K				
		< RELAY >				
RY301	1-515-614-11	RELAY				
		< TRANSFORMER >				
T301	1-433-349-11	TRANSFORMER, BIAS OSCILLATION				
**********						
		VOL BOARD				
		*********				
		< CAPACITOR >				
C1120	1-161-379-00	CERAMIC	0.01uF		30%	16V
		< VARIABLE RESISTOR >				
RV1109	1-223-252-11	RES, VAR, CARBON 100K/100K (VOLUME)				
**********						
		MISCELLANEOUS				
		************				
12	1-590-459-11	WIRE, FLAT TYPE (11 CORE)				
13	1-696-930-11	WIRE (FLAT TYPE) (17 CORE)				
14	1-690-729-11	WIRE, FLAT TYPE (27 CORE)				
15	1-575-002-11	WIRE, FLAT TYPE (22 CORE)				
59	1-690-708-11	CORD (WITH CONNECTOR)				
* 261	1-452-538-11	MAGNET				
⚠306	8-848-144-11	DEVICE, OPTICAL KSS-240A				
307	1-575-001-11	WIRE, FLAT TYPE (12 CORE)				
⚠CNP1301	1-690-609-11	CORD, POWER				
HE1	1-543-673-11	HEAD, MAGNETIC (ERASE) (DECK B)				
HP1	1-543-319-11	HEAD, MAGNETIC (PB) (DECK A)				
HRP1	1-543-319-11	HEAD, MAGNETIC (REC/PB) (DECK B)				
M1	X-3362-377-1	MOTOR (WH) ASSY				
M101	X-4917-504-1	MOTOR ASSY (SLED)				
M102	X-4917-523-3	MOTOR ASSY (SPINDLE)				
M191	A-4604-363-A	MOTOR (L) ASSY				
⚠S1301	1-572-267-61	SWITCH, PUSH (AC POWER) (1 KEY)				
**********						

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-466-926-11	COMMANDER, STANDARD (RM-S109)	
	2-181-754-01	COVER (MLY), BATTERY	
*	3-376-136-01	CUSHION (HALF)	
*	4-956-941-01	CUSHION	

****

****
HARDWARE LIST
****

#1	7-621-849-00	SCREW, TAPPING
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S
#4	7-682-547-04	SCREW +BVTT 3X6 (S)
#5	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT
#6	7-685-135-19	SCREW +BTP 2.6X10 TYPE2 N-S
#7	7-621-775-20	SCREW +B 2.6X5
#8	7-685-133-19	SCREW +P 2.6X6 TYPE2
#9	7-623-921-01	RING, RETAINING, CAPSTAN
#10	7-688-001-01	W 2, SMALL
#11	7-621-775-10	SCREW +B 2.6X4
#12	7-621-255-15	SCREW +P 2X3
#13	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S

HCD-D109

SONY
SERVICE MANUAL

US Model
Canadian Model

1993. 06

SUPPLEMENT-1

File this supplement with the service manual.

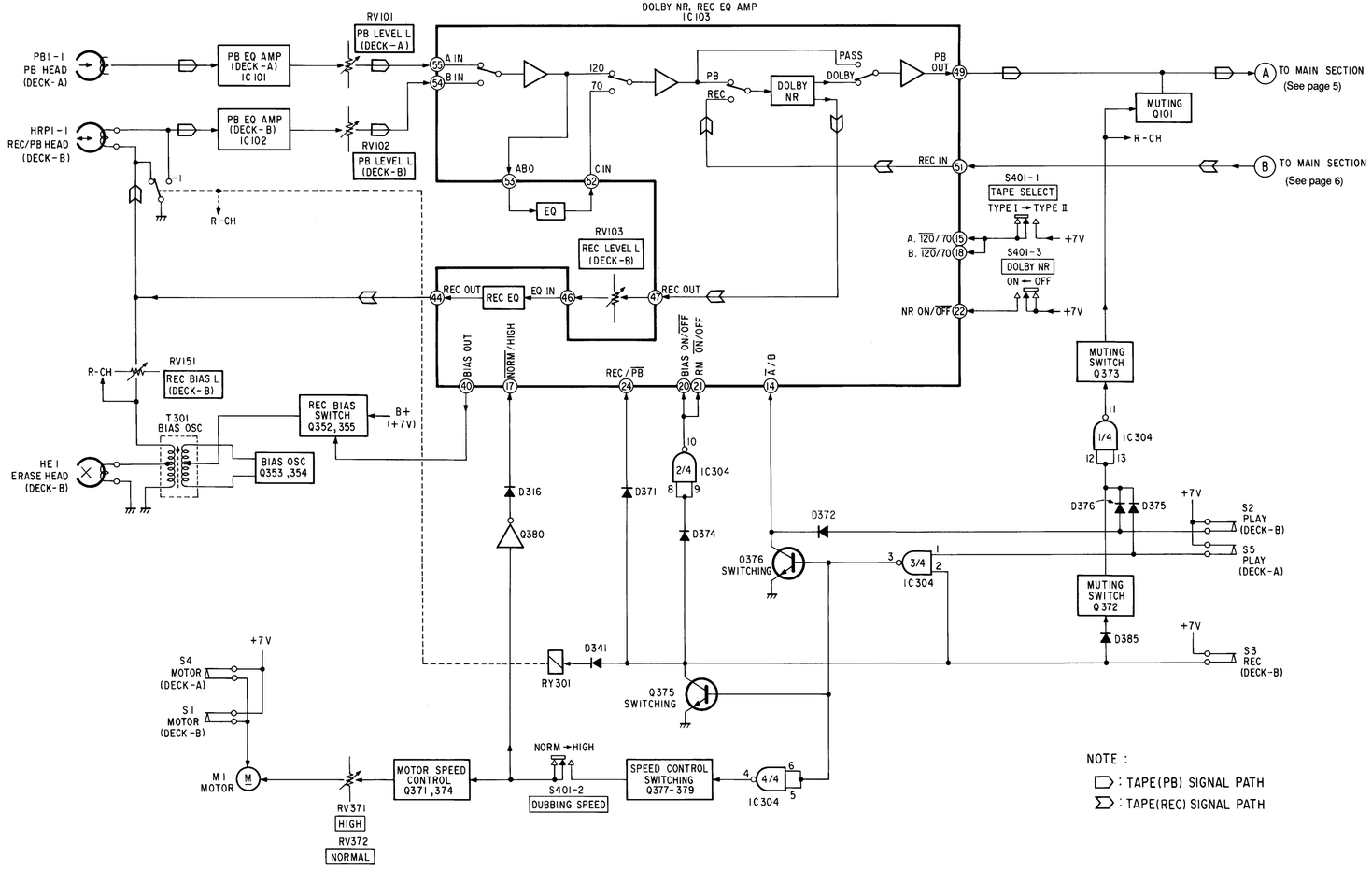
BLOCK DIAGRAMS

9-957-568-82

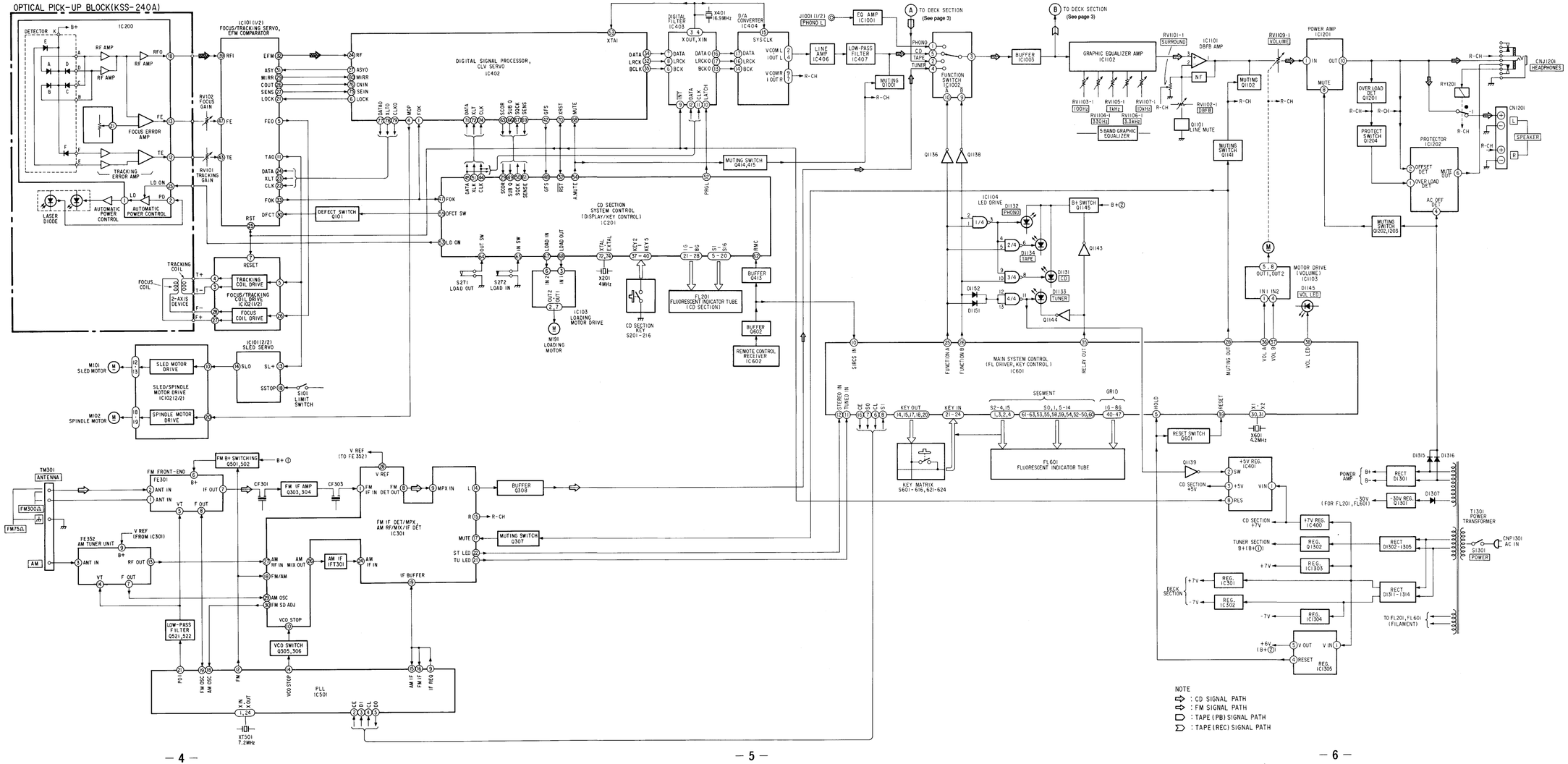
Sony Corporation
Audio Group

English
93F1833-1
Printed in Japan
©1993. 6
Published by Audio Sector Quality Assurance Dept.

BLOCK DIAGRAM —DECK Section—



BLOCK DIAGRAM —MAIN Section—



MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.1	2001.07	Correction of exploded views (74, 77). (SPM-01028)
1.0	1993.06	SUPPLEMENT-1
	1993.05	New

PS-LX52/LX52P

SERVICE MANUAL
REVISED

US Model
Canadian Model
AEP Model
E Model
Australian Model
PS-LX52
UK Model
PS-LX52P

Photo : PS-LX52

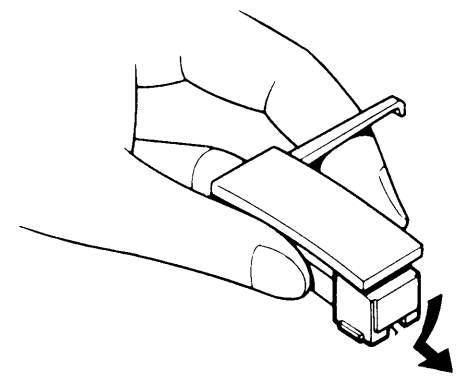
• PS-LX52P is the STEREO TURNTABLE SYSTEM in LBT-D109CD/LBT-A17CD/ LBT-D108CD/LBT-D159CD/LBT-D209CD/ LBT-D259CD/LBT-D309CD/LBT-D359CD.

SPECIFICATIONS

Turntable	
Platter	30cm (12 in.)
Motor	DC servo motor
Drive system	Belt drive
Speed	33⅓ rpm/45 rpm switchable
Wow and flutter	0.2% (WRMS)
Signal-to-noise ratio	60 dB (DIN-B)
Automatic System	Return, reject
Tonearm	
Type	Dynamically balanced
Pivot-to-stylus length	203 mm (8 in.)
Overall arm length	235 mm (9¼ in.)
Cartridge	
Type	Moving magnet type
Frequency response	20 Hz-20 kHz
Stylus	ND-155G
General	
Dimensions	355 × 94 × 345 mm(w/h/d) (14 × 3¾ × 13⅝ inches)
Weight	Approx. 2.5 kg (5 lb 8 oz)
Power requirement	US, Canadian model: 120V AC, 60 Hz AEP, Italian, East European, CIS model: 220-230V AC, 50/60 Hz UK model: 12V DC PX, E, Saudi Arabia, Singapore, Malaysia model: 110-120V/220-240V AC, adjustable with the voltage selector, 50/60 Hz Australian model: 240V AC, 50 Hz
Power consumption	4W (except UK model)
Accessory supplied	45-rpm adaptor (1)
Optional accessories	Replacement stylus ND-155G Stat spray XP-C10 Cleaner XP-C1, XP-C2

Design and specifications subject to change without notice.

REPLACING THE STYLUS



Replace the stylus after about 400 hours of use because using a worn stylus will damage records. An ND-155G replacement stylus is available at your Sony dealer.
Be sure to turn the amplifier off before proceeding with replacement.

1. While holding the cartridge, detach the stylus assembly as illustrated.
2. Insert the new stylus into the cartridge.

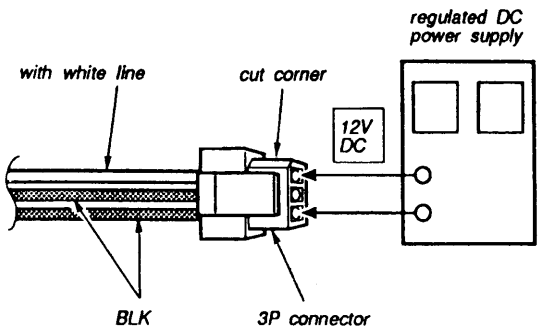
STEREO TURNTABLE SYSTEM

SONY®

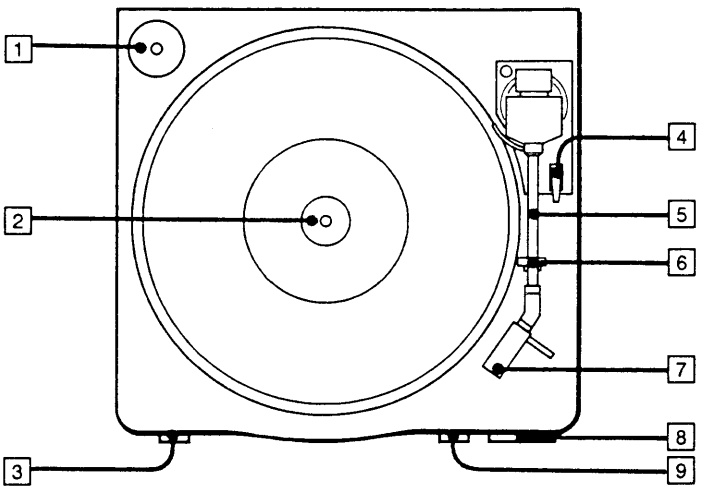
REPAIRING PRECAUTION (PS-LX52P only)

[To supply B+voltage]

The power of this unit is fed from HST model. Because of this, connect the regulated power supply as illustrated right when this unit alone operates.



LOCATION OF CONTROLS



1 **45-rpm adaptor**

2 **Center spindle**

3 **POWER switch** (PS-LX52 only)

4 **Cueing lever**

5 **Tonearm**

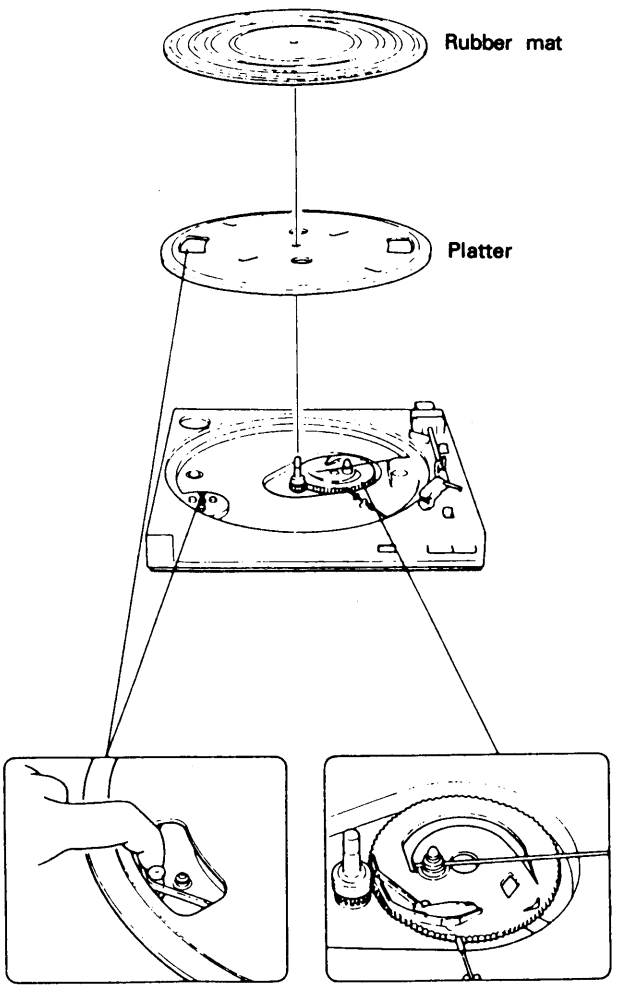
6 **Arm rest**

7 **Cartridge**

8 **REJECT button**

9 **Speed selector**

TURNTABLE ASSEMBLY

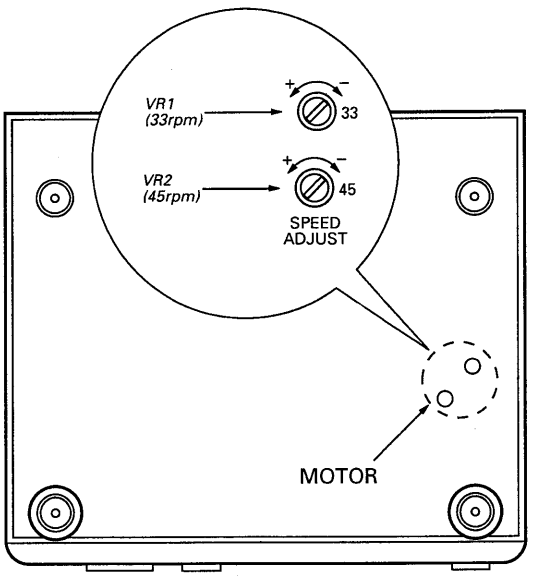


Hook the belt on the motor pulley.
If the belt is removed from the platter, replace it with the glossy side outward.

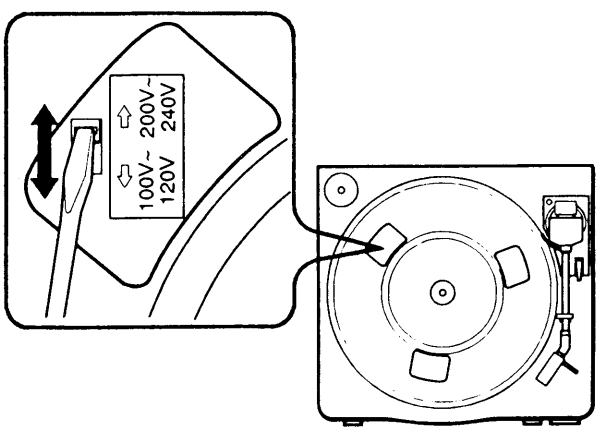
Speed Adjustment

Note: Be sure to perform 45rpm adjustment before 33rpm.

1. Place a stroboscope board on the turntable sheet.
2. Set the SPEED switch to 45.
   Press the START button.
   Adjust VR2 so that the striped pattern of stroboscope board is stationary.
3. Set the SPEED switch to 33.
   Adjust VR1 in the same way.



FRONT SIDE



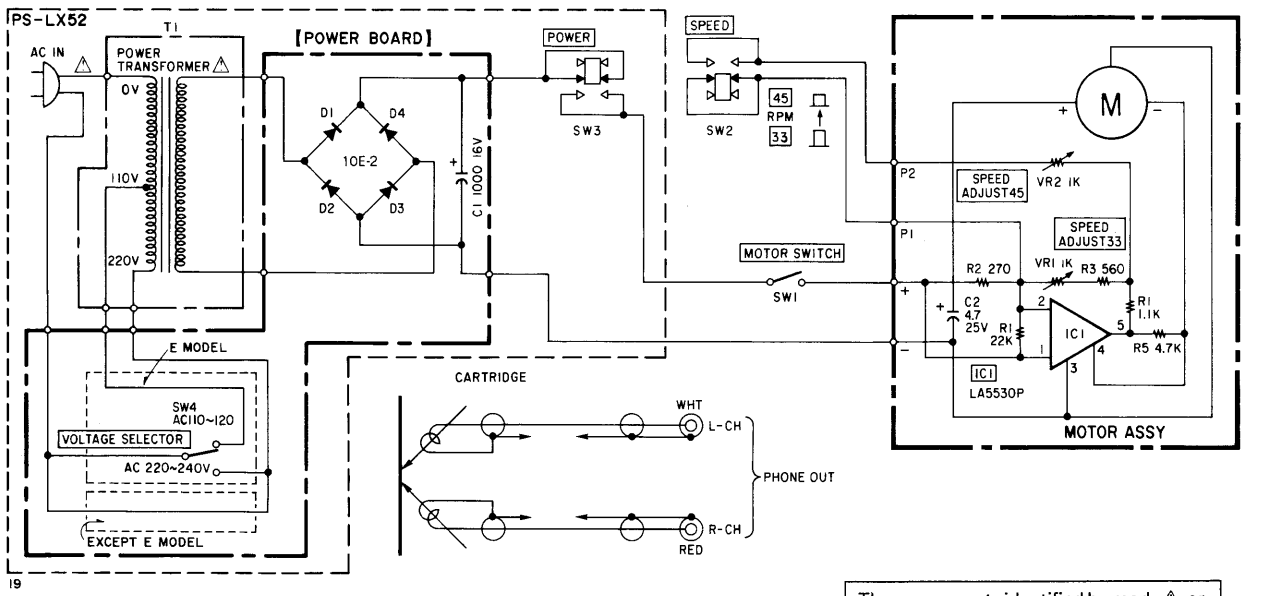
Setting the Voltage Selector

PS-LX52 (E, Saudi Arabia, PX, Singapore, Malaysia model)

For customers of the model equipped with the voltage selector

Check to confirm that the voltage selector is set to the local power line voltage. If not, set the voltage selector to the correct position before connecting the AC power cord to a wall outlet.

SCHEMATIC DIAGRAM



NOTE:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

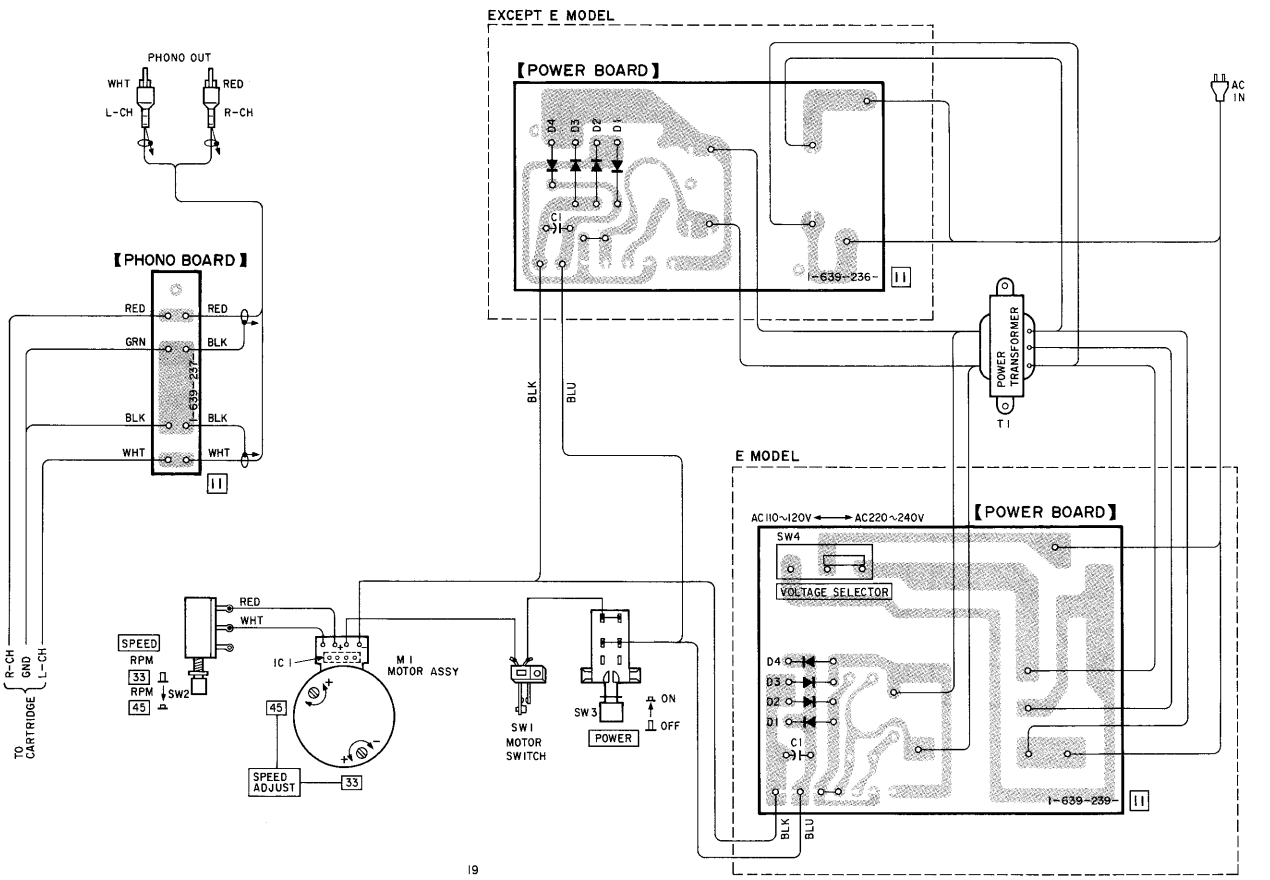
- Switches :

Ref.No.	Switch	Position
SW1	MOTOR	OFF
SW2	SPEED	33
SW3	POWER	OFF

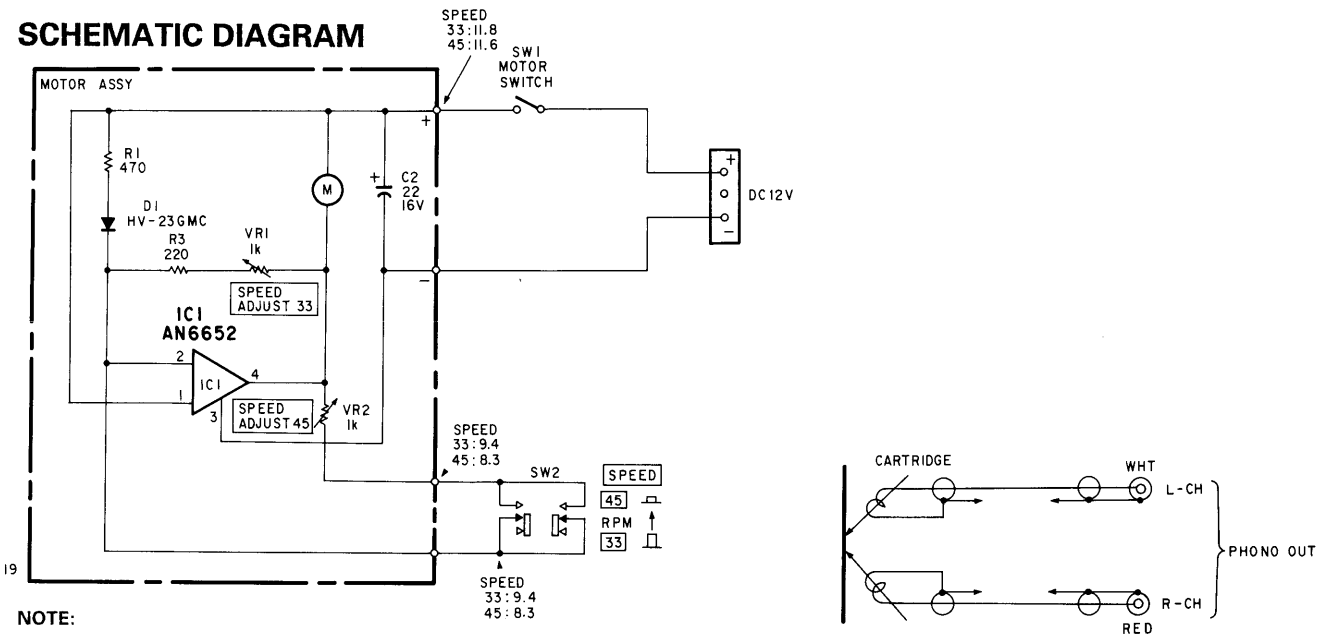
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

WIRING DIAGRAM



SCHEMATIC DIAGRAM



NOTE:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

- Switches :

Ref.No.	Switch	Position
SW1	MOTOR	OFF
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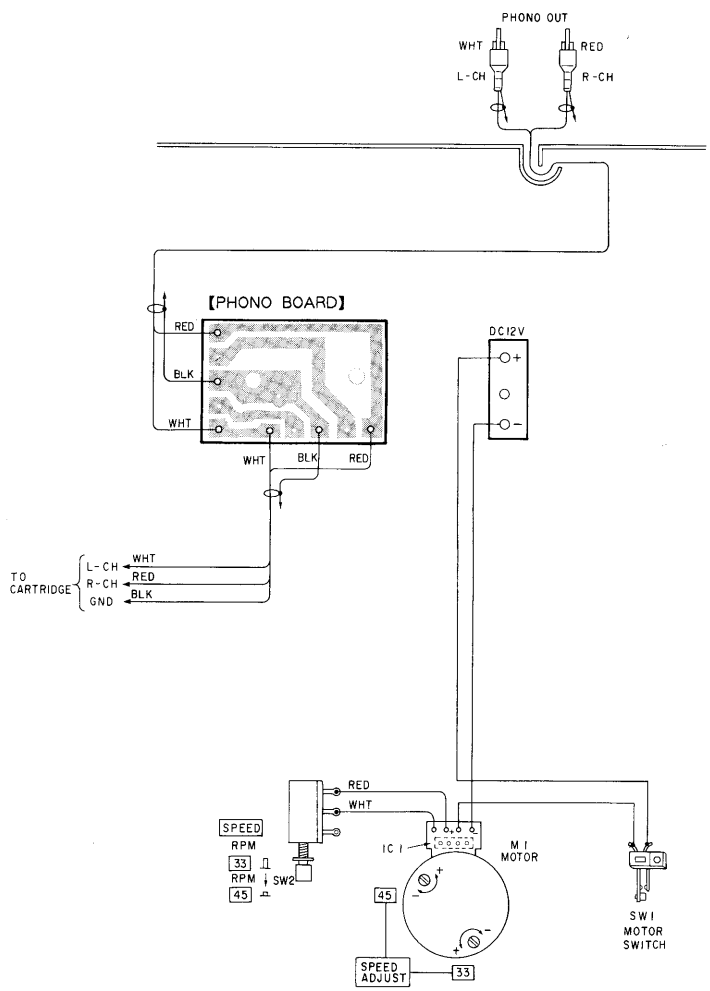
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

WIRING DIAGRAM



EXPLODED VIEW [PS-LX52]

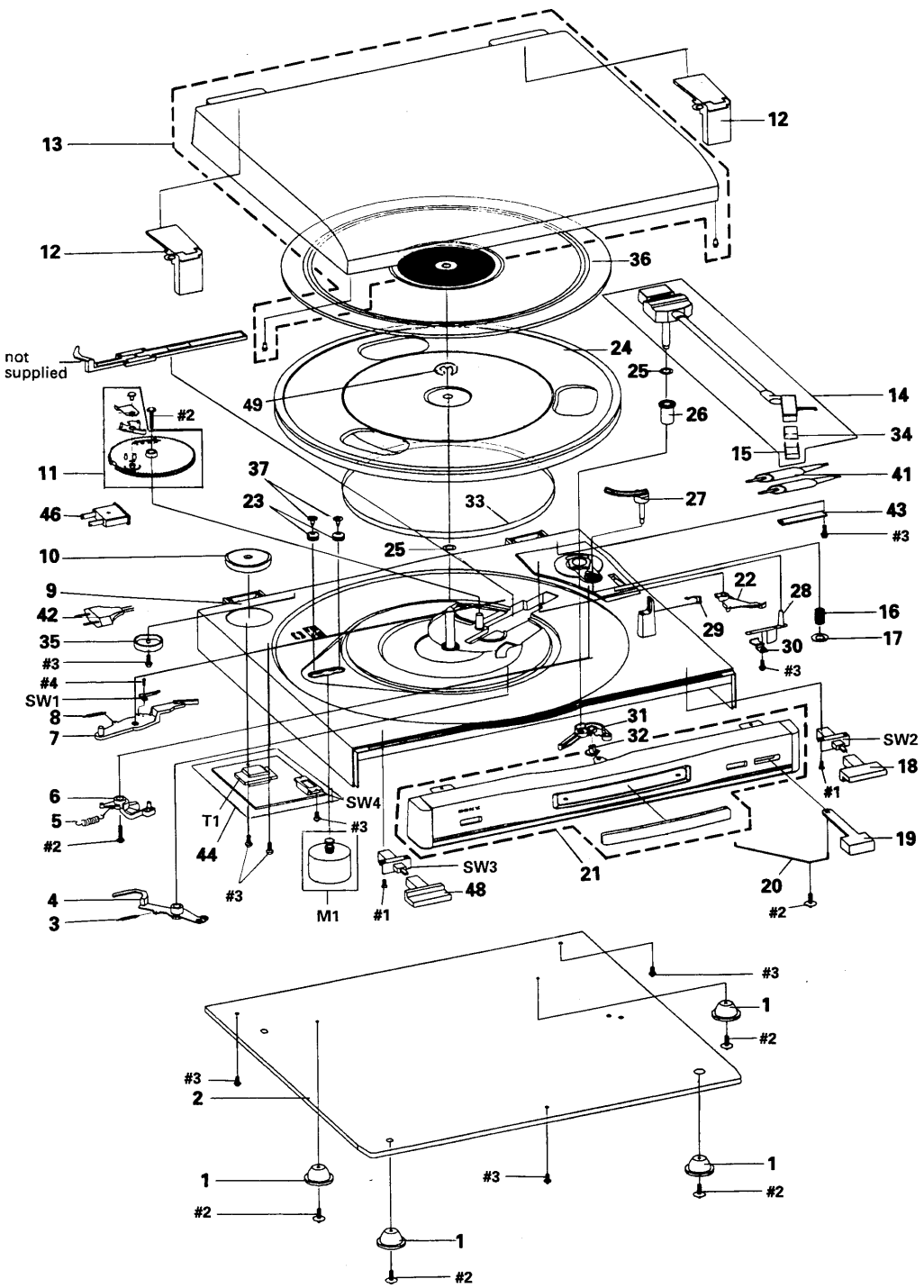
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are in dicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Screw(# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

- PX, Saudi Arabia, Singapore and Malaysia models are identical to E model.
- Italian, EE, and CIS models are identical to AEP model.
- AUS: Australian model
- EE: East European model



Ref. No.	Part No.	Description	Remarks
1	4-950-472-01	FOOT	
* 2	4-958-328-01	COVER-BOTTOM	
3	4-950-453-01	SPRING-REJECT	
4	4-950-452-01	LEVER-REJECT	
5	4-950-455-01	SPRING-ELEVATOR	
6	4-950-454-01	ELEVATOR	
7	4-950-463-01	ARM-CONTROL	
8	4-950-464-01	SPRING-CONTROL ARM	
* 9	4-950-431-01	CABINET-UPPER	
10	4-950-467-01	ADAPTOR-45RPM	
11	A-4660-140-A	GEAR ASSY, RING	
12	4-950-432-01	HINGE	
13	A-4660-138-A	COVER ASSY, DUST	
14	A-4660-384-A	ARM ASSY, TONE	
15	4-944-756-01	STYLUS (ND-155G)	
16	4-950-442-01	SPRING-ELEVATION	
17	4-950-444-01	WASHER-C/S	
18	4-956-873-01	BUTTON-SPEED	
19	4-956-872-01	BUTTON-REJECT	
20	4-950-448-01	LINK-REJECT	
21	A-4660-361-A	PANEL (G) ASSY, FRONT	
22	4-953-060-01	LEVER, SWITCH	
23	4-950-470-01	CUSHION-MOTOR	
24	4-950-433-01	PLATTER	
25	4-950-435-01	SPACER	
26	4-950-436-01	BUSHING-TONE ARM	
27	4-950-437-01	ARM-ELEVATION	
28	4-950-440-01	LEVER-CUEING	
29	4-950-439-01	LOCKER-ARM	
30	4-950-441-01	BRACKET-CUEING	
31	4-950-450-01	ARM-FEED	
32	4-950-451-01	CAM-ADJUST	
33	4-950-434-01	BELT	
34	4-944-756-01	CARTRIDGE (AT-3600LAX)	
* 35	4-950-514-01	WASHER CODE	
36	A-4660-142-A	RUBBER ASSY, SHEET	
37	4-950-469-01	SCREW-SETTING MOTOR	
41	1-590-871-11	CORD, CONNECTION (3 CORE)	
⚠42	1-590-836-11	CORD, POWER (E)	
⚠42	1-551-294-11	CORD, POWER (AEP)	
⚠42	1-696-382-11	CORD, POWER (US, Canadian)	
⚠42	1-696-848-11	CORD, POWER (AUS)	
43	1-639-237-11	PHONE BOARD	
44	1-639-239-11	POWER BOARD (E)	
44	1-639-236-11	POWER BOARD (EXCEPT E)	
⚠46	1-693-159-11	ADAPTER, AC (E)	
48	4-956-874-01	BUTTON POWER	
49	4-953-059-01	E RING	
M1	A-4660-141-A	MOTOR ASSY	
SW1	1-572-746-11	SWITCH, LEAF	
SW2	1-572-744-11	SWITCH, PUSH (2 KEY) (SPEED)	
⚠SW3	1-572-744-11	SWITCH, PUSH (POWER)	
⚠SW4	1-572-745-11	VOLTAGE SELECTOR (E)	
⚠T1	1-450-508-11	TRANSFORMER, POWER	

ELECTRICAL PARTS LIST [PS-LX52]

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS
  MF : μF, PF : μμF

- PX, Saudi Arabia, Singapore and Malaysia models are identical to E model.
- Italian, EE, and CIS models are identical to AEP model.
- AUS: Australian model
- EE: East European model

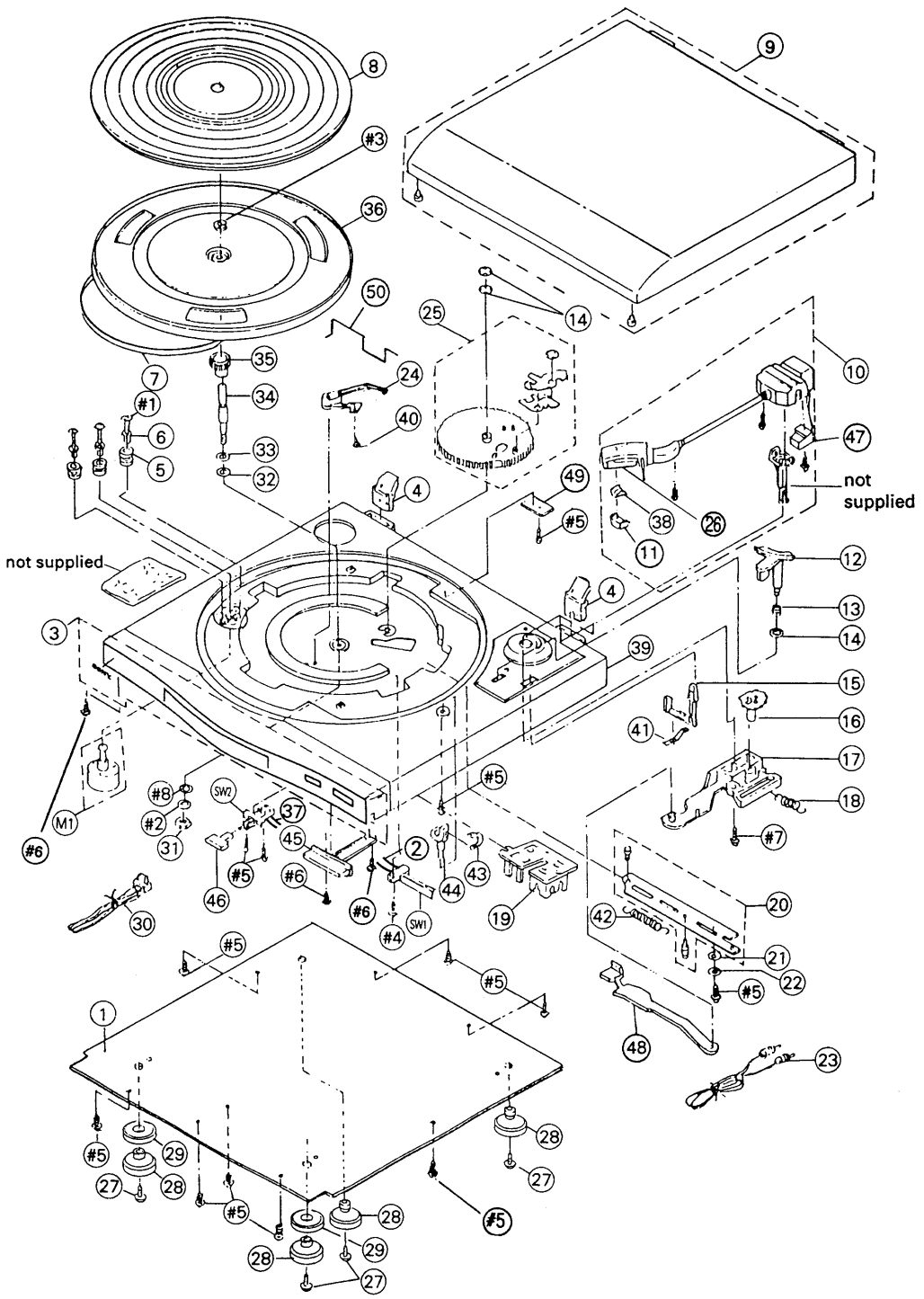
Ref. No.	Part No.	Description	Remarks
	1-639-239-11	POWER BOARD (E)	
	1-639-236-11	POWER BOARD (EXCEPT E)	
		**********	
		< CAPACITOR >	
C1	1-124-360-00	ELECT 1000μF 20% 16V	
		< DIODE >	
D1-4	8-719-200-02	DIODE 10E-2	
		**********	
		MISCELLANEOUS	
		**********	
41	1-590-871-11	CORD, CONNECTION (3 CORE)	
⚠42	1-590-836-11	CORD, POWER (E)	
⚠42	1-551-294-11	CORD, POWER (AEP)	
⚠42	1-696-382-11	CORD, POWER (US, Canadian)	
⚠42	1-696-848-11	CORD, POWER (AUS)	
43	1-639-237-11	PHONE BOARD	
⚠46	1-693-159-11	ADAPTER, AC (E)	
SW1	1-572-746-11	SWITCH, LEAF	
SW2	1-572-744-11	SWITCH, PUSH (2 KEY) (SPEED)	
⚠SW3	1-572-744-11	SWITCH, PUSH (POWER)	
⚠SW4	1-572-745-11	VOLTAGE SELECTOR (E)	
⚠T1	1-450-508-11	TRANSFORMER, POWER	
		**********	
		ACCESSORIES & PACKING MATERIALS	
		**********	
*	4-947-532-01	SNOW BOX (L)	
*	4-947-533-01	SNOW BOX (R)	
*	4-956-071-01	INDIVIDUAL CARTON	
	3-756-211-11	MANUAL, INSTRUCTION (English, French, Spanish, Portuguese) (AEP, Canadian)	
	3-756-211-21	MANUAL, INSTRUCTION (English) (US)	
	3-756-211-41	MANUAL, INSTRUCTION (German, Dutch, Swedish, Italian) (AEP)	
	3-756-211-51	MANUAL, INSTRUCTION (English, French, Spanish, Chinese) (E, AUS)	
	3-756-211-61	MANUAL, INSTRUCTION (English, German, Polish, Russian) (EE, CIS)	
		**********	
		HARDWARE LIST	
#1	7-685-246-19	SCREW +KTP 3X8 TYPE2 NON-SLIT	
#2	7-685-903-21	SCREW +PTPWH 3X8 TYPE2	
#3	7-685-546-19	SCREW	
#4	7-685-104-11	SCREW +P 2X6 TYPE2 NON-SLIT	

EXPLODED VIEW [PS-LX52P]

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Screw(# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.



Ref. No.	Part No.	Description	Remarks
1	4-950-488-01	BOTTOM BOARD	
2	1-696-144-11	WIRE (45) RED	
3	A-4660-303-A	PANEL (G) ASSY, FRONT	
4	4-947-476-01	HINGE	
5	4-947-505-01	CUSHION, MOTOR	
6	4-947-504-01	COLLAR	
7	4-947-503-01	BELT	
8	A-4674-087-A	TURN TABLE MAT ASSY	
9	A-4604-946-A	DUST COVER ASSY	

Ref. No.	Part No.	Description	Remarks
10	A-4604-940-A	ARM ASSY, TONE	
11	4-948-095-01	COVER CARTRIDGE	
12	4-947-466-01	TONE ARM ELEVATOR	
13	4-947-467-01	SPRING (6)	
14	4-947-514-01	4MM CS RING	
15	4-947-468-01	LEVER, CUEING	
16	4-947-470-01	ADJUST CAM	
* 17	4-947-471-01	LINK, RETURN	
18	4-947-472-01	SPRING (9-1)	
19	4-956-998-01	BUTTON BASE	
20	A-4660-302-A	LEVER RETURN ASSY	
21	3-659-350-00	WASHER	
22	4-890-173-00	WASHER	
23	1-555-116-11	PHONO CORD	
24	4-947-495-01	WIPER REJECT	
25	A-4604-916-A	GEAR ASSY, SPUR	
26	1-251-028-11	CARTRIDGE (MAIN)	
27	4-950-497-01	FOOT SEAT	
28	4-950-490-01	PLASTIC STAND	
29	4-950-489-01	FOOT RING	
30	1-557-109-21	DC CORD	
31	4-947-510-01	NUT	
32	3-451-162-00	WASHER (56)	
33	3-701-445-21	WASHER	
34	4-947-498-01	STELL BALL	
35	4-947-497-01	GEAR	
36	4-947-494-01	TURNTABLE PLATTER	
37	1-696-143-11	WIRE (30) (WHT)	
38	4-951-290-01	STYLUS (CN234)	
39	4-947-475-01	MAIN CABINET (G)	
40	4-947-496-01	SPRING (34)	
* 41	4-947-477-01	CUEING (BASE)	
42	4-947-485-01	SPRING (22)	
43	4-947-490-01	ARM CLIP	
44	4-947-491-01	ARM REST	
45	4-956-997-01	KNOB REJECT	
46	4-956-996-01	KNOB SPEED	
47	4-947-464-01	COUNTER WEIGHT	
* 48	4-947-487-01	RETURN LINK	
49	1-644-410-11	P.C BOARD	
50	4-948-101-01	SPRING (38)	

ELECTRICAL PARTS LIST [PS-LX52P]

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Ref. No.	Part No.	Description	Remarks
23	1-555-116-11	PHONO CORD	
30	1-557-109-21	DC CORD	
* 49	1-644-410-11	P.C BOARD	
M1	A-4604-945-A	MOTOR ASSY	
SW1	1-570-666-11	SWITCH (MOTOR)	
SW2	1-571-089-11	PUSH SWITCH (SPEED)	
**********			
	ACCESSORIES & PACKING MATERIALS		
	**********		
*	4-947-532-01	SNOW BOX (L)	
*	4-947-533-01	SNOW BOX (R)	
*	4-957-002-01	CARTON	
**********			

HARDWARE LIST

#1	7-621-773-87	SCREW +B 2.6X10
#2	7-623-210-22	SW4, TYPE 2
#3	7-624-110-04	STOP RING 6.0, TYPE-E
#4	7-685-105-19	SCREW +P 2X8 TYPE 2 NON-SLIT
#5	7-685-647-79	SCREW +BVTP 3X10 TYPE 2 IT-3
#6	7-685-646-79	SCREW +BVTP 3X8 TYPE 2 IT-3
#7	7-685-645-79	SCREW +BVTP 3X6 TYPE 2 IT-3
#8	7-688-005-01	W5, SMALL

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Home A&V Products Div.

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PS-LX52/LX52P

SONY

SERVICE MANUAL

US Model
Canadian Model
AEP Model
E Model
Australian Model
PS-LX52
UK Model
PS-LX52P

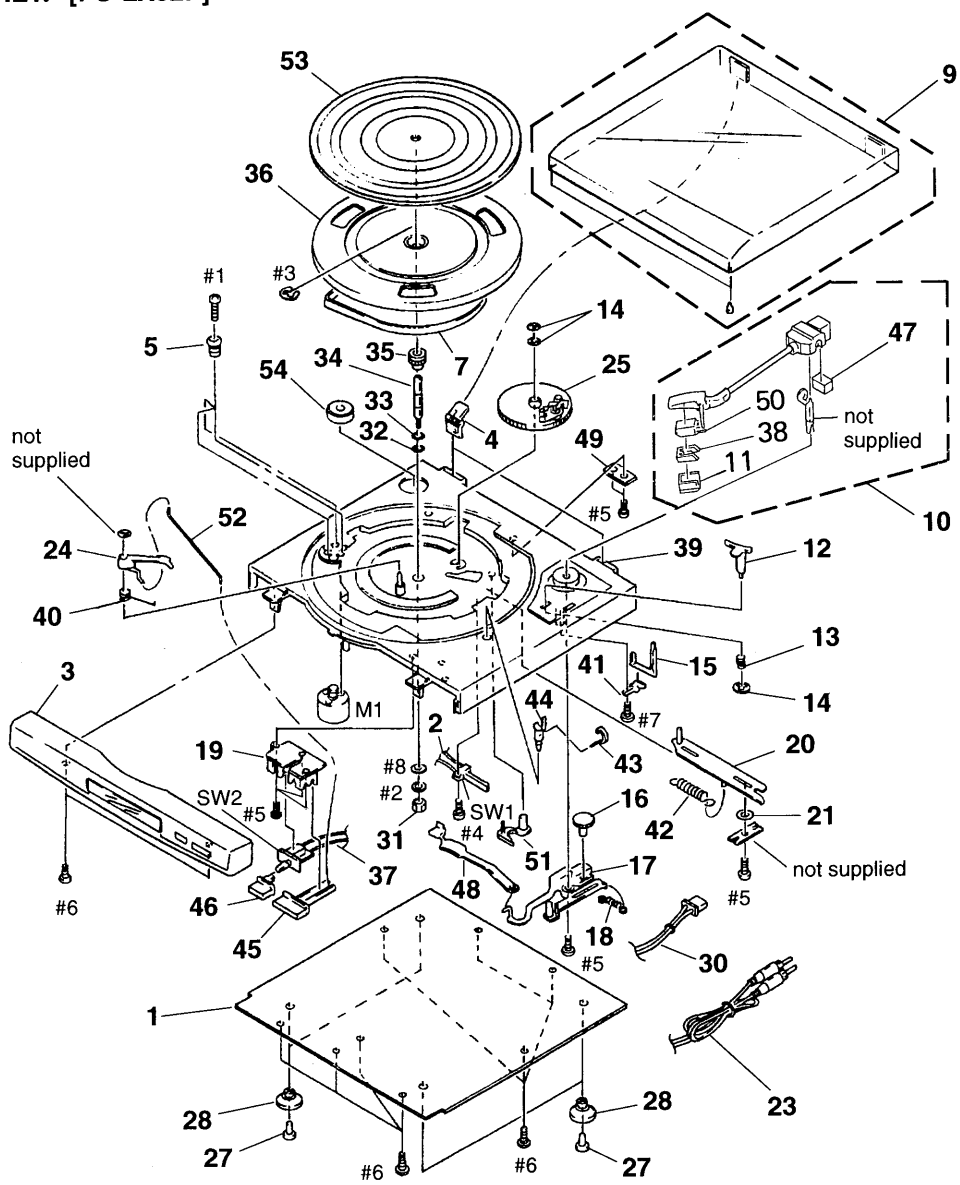
CORRECTION-1

Correct your service manual as shown below.

Subject: Correction of EXPLODED VIEW (PS-LX52P)

(SPM-95043)

EXPLODED VIEW [PS-LX52P]



Note:

- Item marked "*" are not stocked since they are seldom required for routine services. Some selay should be anticipated when ordering these items.
- The mechanical oarts with no refernce number in the exploded views are not supplied.

Ref. No.	Part No.	Description	Remark
1	4-950-488-01	BOTTOM BOARD	
2	1-696-144-11	WIRE (45) (RED)	
3	A-4660-303-A	FRONT PANEL ASSY	
4	4-947-476-01	HINGE	
5	4-947-505-01	CUSHION MOTOR	
7	4-947-503-01	BELT	
9	A-4604-946-A	DUST COVER ASSY	
10	A-4604-940-A	ARM ASSY, TONE	
11	4-948-095-01	COVER, CARTRIDGE	
12	4-947-466-01	TONE ARM ELEVATOR	
13	4-947-467-01	SPRING (6)	
14	4-947-514-01	4MM CS RING	
15	4-947-468-01	LEVER, CUEING	
16	4-947-470-01	ADJUST CAM	
* 17	4-947-471-01	LINK, RETURN	
18	4-947-472-01	SPRING (9-1)	
19	4-956-998-01	BUTTON BASE	
20	A-4660-302-A	LEVER RETURN ASSY	
21	3-659-350-00	WASHER	
23	1-555-116-11	CORD, PHONE	
24	4-947-495-01	WIPER REJECT	
25	A-4604-916-A	GEAR ASSY, SPUR	
27	4-950-497-01	FOOT SEAT	
28	4-950-490-01	PLASTIC STAND	
30	1-557-109-21	CORD, DC	
31	4-947-510-01	NUT	
32	3-451-162-00	WASHER (56)	
33	3-701-445-21	WASHER	
34	4-947-498-01	STELL BALL	
35	4-947-497-01	GEAR	
36	4-947-494-01	TURNTABLE PLATTER	
37	1-696-143-11	WIRE (30) (WHT)	
38	4-951-290-01	STYLUS (CN-234)	
39	4-947-475-01	MAIN CABINET (G)	
40	4-947-496-01	SPRING (34)	
41	4-947-477-01	CUEING (BASE)	
42	4-947-485-01	SPRING (22)	
43	4-947-490-01	ARM CLIP	
44	4-947-491-01	ARM REST	
45	4-956-997-01	KNOB REJECT	
46	4-956-996-01	KNOB SPEED	
47	4-947-464-01	COUNTER WEIGHT	
* 48	4-947-487-01	RETURN LINK	
* 49	1-644-410-11	PC BOARD	
50	1-251-028-11	CARTRIDGE (MAIN)	
51	4-957-000-01	PLASTIC RETURN	
52	4-948-101-01	SPRING (38)	
53	A-4674-087-A	TURN TABLE MAT ASSY	
54	3-701-806-00	ADAPTOR, 45	
M1	A-4604-945-A	MOTOR ASSY	
SW1	1-570-666-11	SWITCH (LEAF)	
SW2	1-571-089-11	PUSH SWITCH (SPEED)	
#1	7-621-773-87	SCREW (64)	
#2	7-623-210-22	WASHER (57)	
#3	7-624-110-04	6MM E RING	
#4	7-685-105-01	SCREW (59)	
#5	7-685-647-79	SCREW (58)	
#6	7-685-646-79	SCREW (60)	
#7	7-685-645-79	SCREW (68)	
#8	7-688-005-01	WASHER (69)	

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Home A&V Products Div.

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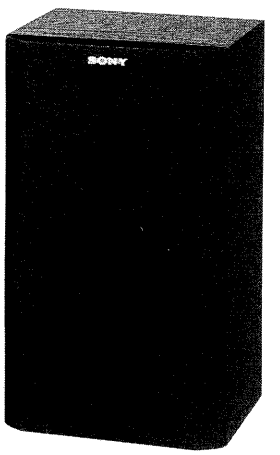
Quality Engineering Dept.

SS-D110

SERVICE MANUAL

US Model
Canadian Model

Discard SS-D110 Service Manual
(No. 9-957-512-11) previously issued.
This Service Manual contains it.



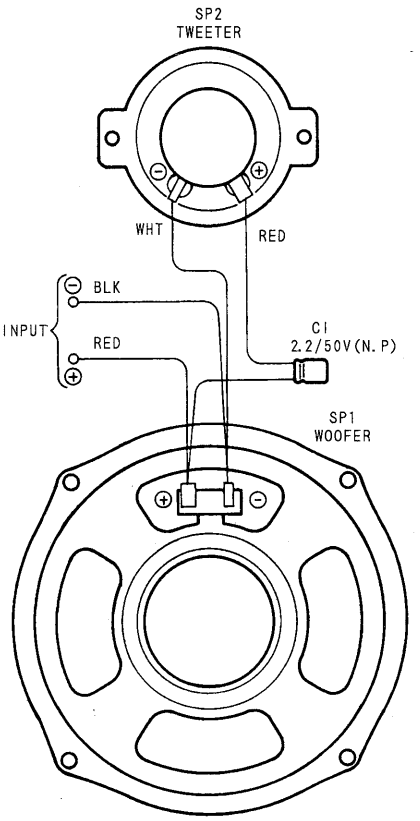
SPECIFICATIONS

Speaker system	2-way
Mass	Approx. 2.9 kg (6 lb 6 oz), per speaker
Dimensions	Approx. 220 x 375 x 175 mm ($8^{3}/_{4}$ x $14^{7}/_{8}$ x 7 inches)(w/h/d)

Design and specifications are subject to change without notice.

This set is the speaker system in LBT-D1110, LBT-D110CD and LBT-D109.

1. WIRING DIAGRAM



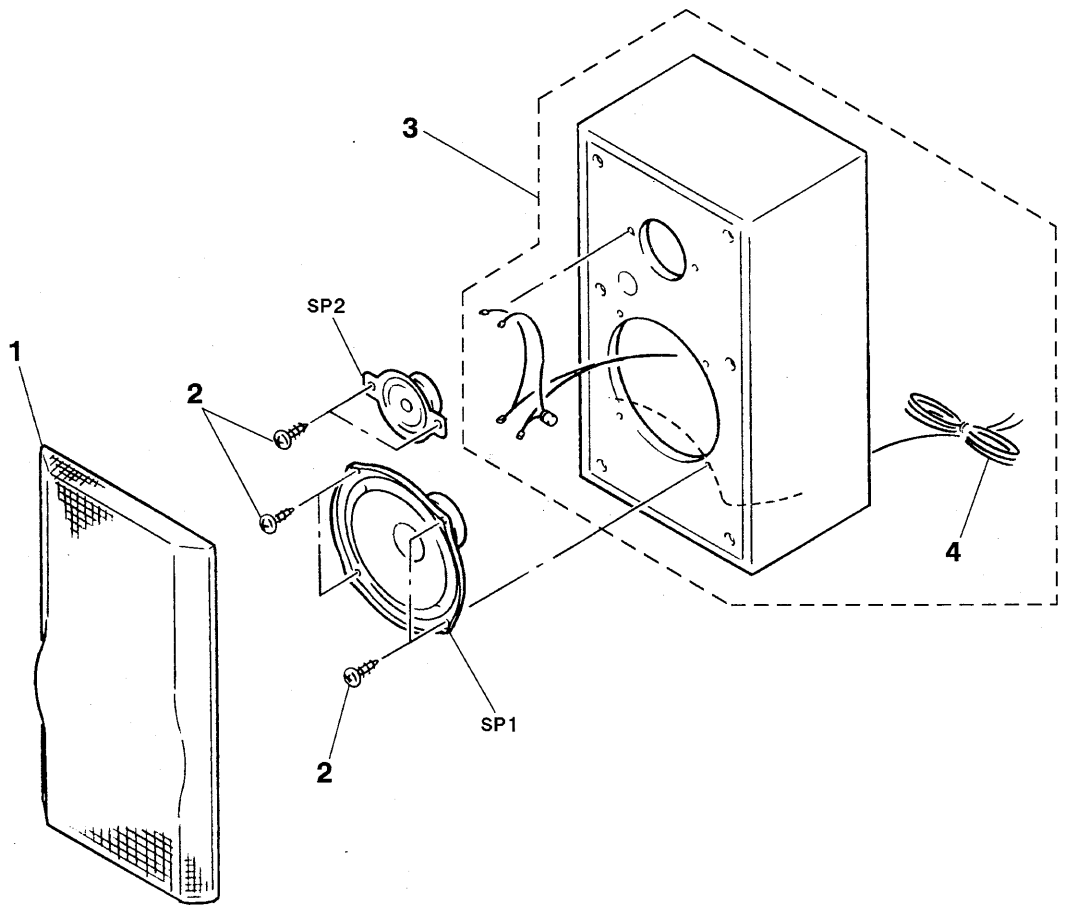
SPEAKER SYSTEM

SONY®

2. EXPLODED VIEW AND PARTS LIST

NOTE:

- -XX,-X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.



Ref. No.	Part No.	Description	Remark
1	X-4943-027-1	FRAME ASSY, GRILLE	
2	4-874-614-61	SCREW (M3.5X16)	
* 3	X-4943-028-1	CABINET ASSY, SPEAKER	
4	1-696-794-11	CORD (WITH C), SPEAKER	
SP1	1-504-173-11	SPEAKER (16cm)	
SP2	1-504-174-11	SPEAKER (5cm)	

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
*	4-936-544-01	CUSHION	

9-957-512-12

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Audio Group

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